Operating instructions
Roll-over wash system New SoftWash



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Warranty

We reserve the right to make changes to this publication.

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Introduction

These operating instructions are intended to help you familiarize yourself with your roll-over wash system of type New SoftWash.

To start with, we have a few important things to say about safety. Please observe these instructions without fail, in order to prevent damage to machinery and injury to persons.

You will then learn about the structure and function of your roll-over wash system. We show you step by step how to put the system into operation and how to operate it.

We also provide you with tips on maintenance and care, so that your roll-over wash system functions well at all times.

Please pay unconditional attention to the warranty specifications on the next three pages.

Any questions? Before you do anything else, always look in the table of contents. You are sure to find what you need there.

And if you do need us in person: just call us or send a fax.





While talking about service: in this operating instruction the WashTec Service is mentioned several times. WashTec Service means the personnel of the WashTec Cleaning Technology GmbH as well as the personnel of our partners.

Dear Customer,

thank you for opting for WashTec. You have selected a product that will be in reliable operation in your car wash business for a long time. And there is a lot you can do to ensure this. Please read this operating manual carefully and observe the maintenance and care instructions listed in it. This significantly increases the service life of your system.

In case of a **problem**, please check the following points first:

- Observe the error messages on the display of the operating unit!
- Could the problem be due to a power failure or a failure in the air or water supply?
- Are missing respectively wrong equipment or non-dearated feed pumps the cause?
- Is the emergency-off button/switch activated?
- Are the light barriers dirty?

Our customer service will remedy defects in/on the system in the scope of our **warranty**. These relate to the service that is part of the delivery scope of our machines and do not include: equipment, wear and tear parts, damages caused by improper operation, etc. The exclusions from warranty are listed on the next two pages.

If **components** were connected during the installation of your new system (for example existing aggregates like pumps etc. or equipment by other manufacturers like automatic doors, water recycling plants, etc.) that we did not deliver, possible operational breakdowns caused by these components are also excluded from our warranty. This naturally also applies to breakdowns directly related to this third-party equipment.

In order to prevent **damages to vehicles** passing through the car wash facility, you must observe all notices in the operating manual. A sequencer controls the automatic doors (in winter operation together with light barrier signals) by means of switching impulses for opening and closing the car wash facility. For protection against damage, the doors must be equipped with suitable safety installations. Please contact your door supplier.

We wish you lots of success with your business.

WashTec Cleaning Technology GmbH

Exclusions from warranty

Valid for machine types:		GW	WT	CW	WR	SW
●	Delivery and installation of any type of illuminates and lights	X	X	X		X
●	Delivery and installation of sign boards or –foils.	X	X	X	X	X
●	Program modifications on behalf of the ordering party	X	X	X	X	X
●	Delivery of operating facilities/ program cards	X	X	X	X	X
●	Provision of cleaning agents and operating facilities	X	X	X	X	X
●	Remedy of damages which are related to the impact of frost	X	X	X	X	X
●	Exchange of defect pre-fusing in the supply line (customer supplied main distributor)	X	X	X	X	X
●	Replacement of system parts which got lost by theft	X	X	X	X	X
●	Replacement and disposal of filter media such as quartz sand, filter pads, etc.				X	
●	Disposal of silt traps and sedimentation tanks	X	X	X	X	X
●	Filling and spindling of the under-floor heater					X
●	Remedy of damages or malfunctions which have been caused by improper operation of the system through the operator. **Examples:**	X	X	X	X	X
1.	Usage of non-original WashTec spare parts or non-original brush material by the ordering party	X	X	X	X	X
2.	Manual actuation of contactors	X	X	X	X	X
3.	Damage of the system or accessories by the operator or third party	X	X	X	X	X
4.	Cleaning of the system with unsuitable cleaning agents, e.g. hydrofluoric acid.	X	X	X	X	X
5.	Unprofessional cleaning of the system with high-pressure units	X	X	X	X	X
6.	Soiling of brushes or dosing facilities due to mixing up or using the wrong cleaning agents such as shampoo, wax, etc.	X	X	X	X	X
7.	Wrong setting of the dosing facilities by the ordering party and resultand malfunctions	X	X	X	X	X
8.	Empty cleaning agent containers or dosing pumps which have not been bleeded.	X	X	X	X	X
9.	Violent removal of jammed program cards	X	X	X	X	X
10.	Dirty light barriers and spray nozzles	X	X	X	X	X
11.	Malfunctions caused by clogging of the fresh water line, process water line and waste water line and by cleaning these lines	X	X	X	X	X
12.	Explicit non-observance of the maintenance and care work which has to be carried out by the operator and which is outlined in the operating instructions / operating journal	X	X	X	X	X

Valid for machine types:		GW	WT	CW	WR	SW
13.	Services which have to be supplied to remedy or minimize, odour problems and which have been caused by insufficient cleaning of the recycling system and its environment	X	X	X	X	X
14.	Not accurately timed disposal or cleaning of the silt trap, sedimentation tanks, pump storage tank and light oil- or coalescence separator	X	X	X	X	X
15.	Cleaning the filter of the water supply and the freeze protection facility					X
16.	No or wrong supply of coins, wrong coins					X
17.	Cleaning of the chimney and heater systems					X
18.	All malfunctions at the burner of the heating system and yearly emission control					X
	Submitance of evidence for the above examples rests with the ordering party					
•	**Consumable material which is not included in the scope of supplies:**					X

Aqua tester	Brush feet	Replacement brush for surface washer
Fine-filter plug	Flat jet nozzle	Hand lance
High-pressure pistol	Injectors	Lance holder
Lance pipe	Lance hose	Foam lance
Dirt filter	Protection hood	Protection hood for brush
Collar	Support for foam brush	

Explanation of the short terms:

GW ➢ Gantry wash system
WT ➢ Conveyor wash tunnel
CW ➢ Commercial vehicle wash system
WR ➢ Water recycling system
SW ➢ Self service wash systems

List of contents

Subject **Page no.**

Introduction

1. General information **1-1**

1.1. Guide to symbols 1-1
1.2. Manufacturer´s Declaration 1-1

2. Safety instructions **2-1**

2.1. General information 2-1
2.2. Intended use 2-2
2.3. Additional dangers 2-3
2.4. Working safely 2-3
2.5. Safety during operation 2-6

3. Structure and function **3-1**

3.1. Complete System 3-2
3.2. Mechanical structure 3-3
3.3. Additional equipment - mechanical 3-13
3.4. Fluid technical system 3-21
3.5. Additional equipment - spray system 3-35
3.6. Control system and electronics 3-42
3.7. Special equipment 3-44

4. Commissioning/assembly/dis-mantling/ conversion/disposal **4-1**

4.1. Commissioning 4-1
4.2. Dismantling/conversion/transport/ assembly 4-8
4.3. Disposal 4-8

5. Washing operation **5-1**

5.1. Safety instructions 5-2
5.2. Preparing the vehicle 5-4
5.3. Car wash procedure 5-5
5.4. Procedure for emergency stops and malfunctions 5-8

6. Settings and checking 6-1

6.1. Adjusting the compressed air 6-1
6.2. Filling the dosing pumps 6-4
6.3. Adjusting the dosing pump 6-5
6.4. Bleeding the suction lines at the rim cleaner pump 6-6
6.5. Adjust rim cleaner pump 6-7
6.6. Reading and setting the water flowing pressure 6-8

7. Maintenance and care 7-1

7.1. Safety instructions 7-1
7.2. Care 7-2
7.2.1. Lime-scale removal 7-4
7.2.2. Cleaning of the system 7-5
7.2.3. Cleaning of the floor 7-5
7.2.4. Cleaning of the brushes 7-6
7.2.5. Special treatment 7-9
7.3. Maintenance 7-10
7.3.1. Maintenance on demand 7-10
7.3.2. Weekly Maintenance 7-11
7.3.3. Monthly Maintenance 7-12
7.3.4. Maintenance every six months 7-13
7.3.5. Annual 7-14

8. Error messages 8-1

9. Operating units 9-1

9.1. Operating terminal CP1 9-3
9.1.1. Overview 9-3
9.1.2. Starting up the operating terminal 9-4
9.1.3. Starting wash programs 9-4
9.1.4. Manual operation with control buttons 9-7
9.1.5. Service programs 9-10
9.2. Card reader 9-79
9.2.1. Overview 9-79
9.2.2. Structure 9-80
9.2.3. Commissioning 9-80
9.2.4. Washing operation with card 9-81
9.2.5. Start of wash programs 9-82
9.2.6. Cleaning the card reader 9-84

10. Additional equipment **10-1**

10.1. Fresh-water supply systems 10-2
10.2. Under-body wash - turnable 10-4
10.3. Under-body wash – sectionwise 10-7
10.4. Vehicle moving device 10-8
10.5. Rolling shutter door control 10-9

11. Technical specifications **11-1**

11.1. Dimensions 11-1
11.2. Technical Data 11-3

12. Appendix **12-1**

1. General information

1.1. Guide to symbols

This section contains an explanation of the symbols used in these operating instructions.

⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, may result in death or serious injury.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTICE

Indicates sections which contain important information.



Indicates work operations which need to be carried out.



This symbol is followed by a description about how the status of the system changes after an operation has been carried out.

1.2. Manufacturer´s Declaration

The roll-over wash system New SoftWash is developed and manufactured in compliance with valid European standards and guidelines. The manufacturer´s declaration for your roll-over wash system is included in the appendix of these operating instructions.

2. Safety instructions

2.1. General information

In order to guarantee safe use and fault-free operation, all individuals who are involved in any way with the roll-over wash system must have read and understood this operating manual. The instructions in this operating manual must be complied with by all individuals who operate the roll-over wash system or who work on it. In addition, the regulations and directives which are applicable in the place of use must also be observed (safety regulations, environmental requirements, etc.).

Operating company

The operating company is obliged only to allow individuals to work on the roll-over wash system who

- are familiar with the regulations for safety in the workplace and for accident prevention,
- have been instructed in using the system,
- who have previously read and understood this operating manual.

We recommend that every operating company has this confirmed in writing by its personnel.

Personnel

All individuals who are commissioned to work on the roll-over wash system must, before work commences, undertake

- to observe the regulations for safety in the workplace and accident prevention,
- and to read this operating manual carefully and to observe its content.

2.2. Intended use

The roll-over wash system New SoftWash is designed for cleaning the outside of closed vehicles or parts of vehicles, in which the cleaning, drying or special treatment equipment are power driven.

⚠ CAUTION

Vehicles which extend beyond the allowed vehicle-width or vehicle-length should not be washed.

Pay attention to the information in chapter 11 "Technical specifications".

If the roll-over wash system is used for vehicles with certain features, this may result in damage to the vehicle.

Pay attention to the information in chapter 5 "Washing operation".

⚠ DANGER

The safety of persons and animals, the roll-over wash system and vehicles cannot be guaranteed if the wash system is not used in accordance with its intended use.

WashTec can accept no liability for any other usage or any modifications made to the roll-over wash system.

2.3. Additional dangers

The roll-over wash system has been manufactured in accordance with the latest safety standards and has been rated as absolutely operationally safe. Despite this fact, the system can represent a danger if it is used incorrectly or for any purpose other than its intended use by untrained personnel.

No liability can be accepted for damages caused by improper use, incorrect operation or non-observance of the operating instructions

2.4. Working safely

⚠ DANGER

General

All work on the roll-over wash system other than that specifically described in this operating manual may only be carried out by WashTec Service personnel.

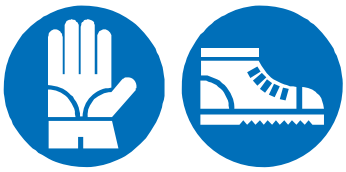
No liability can be accepted for damages that are caused by improper work - in particular work that is not described in this operating manual.

Work on the roll-over wash system that is described in this operating manual may only be carried out by authorised, qualified and fully instructed personnel. These individuals must have received instruction from WashTec Service about potential dangers.

Work on the electrical parts of the system may only be carried out by qualified individuals as defined by DIN EN 50110-1 Section 3.2.1. In countries where DIN EN 50110-1 does not apply, the country-specific regulations must be observed.

⚠ DANGER

Protective clothes



Working without protective clothes can cause serious accidents.

- ☞ **Always refer to the safety instructions of the cleaning and care agent manufacturer for proper precautions.**
- ☞ **Observe the accident prevention regulations which apply to the place of operation.**
- ☞ **Wear proper non-skid boots and appropriate protective clothes.**

⚠ DANGER

Maintenance
Service
Care

Maintenance, service and care work carried out on the machine while it is switched on can cause serious accidents.

Always work through the following steps before starting maintenance, service and care work:

- ☞ **Move the roll-over wash system into an easily accessible position**
- ☞ **Switch off the electricity on the complete system**
- ☞ **Turn off the compressed air. Close the air supply at the ball valve located in the fluid-technical system cabinet and turn the input pressure regulator to 0 bars.**
- ☞ **Switch off the water supply.**
- ☞ **Secure the system to prevent it from being switched on unintentionally.**

⚠ DANGER

Checks
Faults

Carrying out checking and adjustment work and attempting to rectify errors on the roll-over wash system while it is switched on can result in serious accidents.

If necessary, authorised, qualified and instructed individuals who are familiar with the potential risks may enter the system while it is switched on.

In this case, there must always be a second person at the main switch who can switch off the roll-over wash system in the event of an emergency.

A falling roof brush or roof nozzle can cause serious accidents. Never stand underneath the roof brush or roof nozzle.

Keep adequate distance to power driven elements.

Do not touch moving elements while the system is running.

Please observe that also idle elements may suddenly be moved by the controller.

2.5. Safety during operation

⚠ DANGER

Safety instructions for the operator

The roll-over wash system may only be operated by authorised, qualified and instructed personnel. These individuals must have received instruction from WashTec Service personnel about potential dangers.

With self-service wash systems, there must always be one person who can be reached during operation who is familiar with the system and is able to take or initiate the necessary measures to prevent dangerous situations in the event of failure.

For wash systems which are operated in self-service mode, e.g. the operator or his personnel are not present during the wash cycle, and where the driver remains seated in the vehicle during the wash cycle it is highly recommended to install a video surveillance for controlling the wash area.

In dangerous situations, the "emergency off" button is to be pressed immediately.

The wash system operator is obliged to inform vehicle wash customers of the potential risks involved in using the roll-over wash system.

This information must be displayed on instruction notices in front of the vehicle wash building.

⚠ DANGER **Safety instructions for the customer**	**Incorrect use of the roll-over wash system by customers can cause serious accidents.** **Customers must be informed of the following without fail:** ▪ **For safety reasons, the instructions of the car wash plant operator must be obeyed.**
Only for car wash systems, where the customer remains in his car during the wash cycle	▪ **The vehicle may not be left by any person in case of problems. Wait for instructions of the operator.**
Only for car wash systems, where the customer leaves his car during the wash cycle	▪ **The operating range of the roll-over wash system should not be entered during the wash cycle without attendance of the operator and only with his agreement.** ▪ **Children and animals may not be left alone inside the car during the wash cycle.** ▪ **No persons are allowed within the operating range of the roll-over wash system during the wash process. The drive in area has to be kept clear.** ▪ **Any animals are to be kept on a leash and under supervision.**

3. Structure and function

This chapter is designed to help you familiarise yourself with the structure and function of your roll-over wash system. The following pages contain a short description of the individual assemblies, to assist you in this process:

Complete System..... 3-2
Mechanical structure 3-3
Additional equipment - mechanical 3-13
Fluid technical system .....…….... 3-21
Additional equipment - spray system 3-35
Control system and electronics 3-42

The diagrams below will help you with orientation.

Side view

Front view

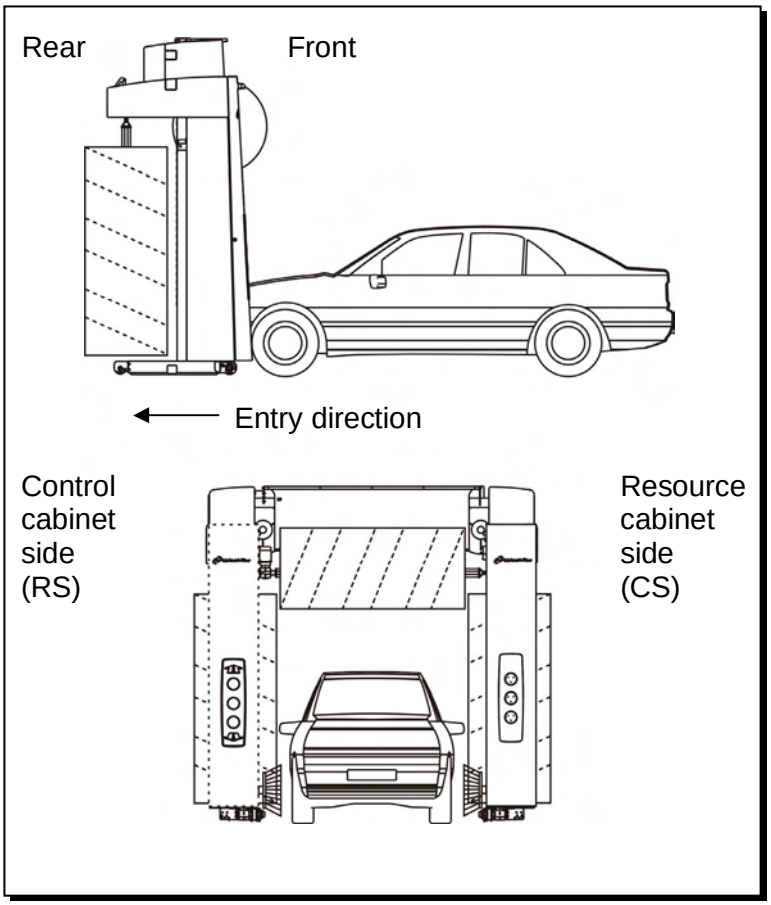


Fig. 3-1: Orientation diagram

3.1. Complete System

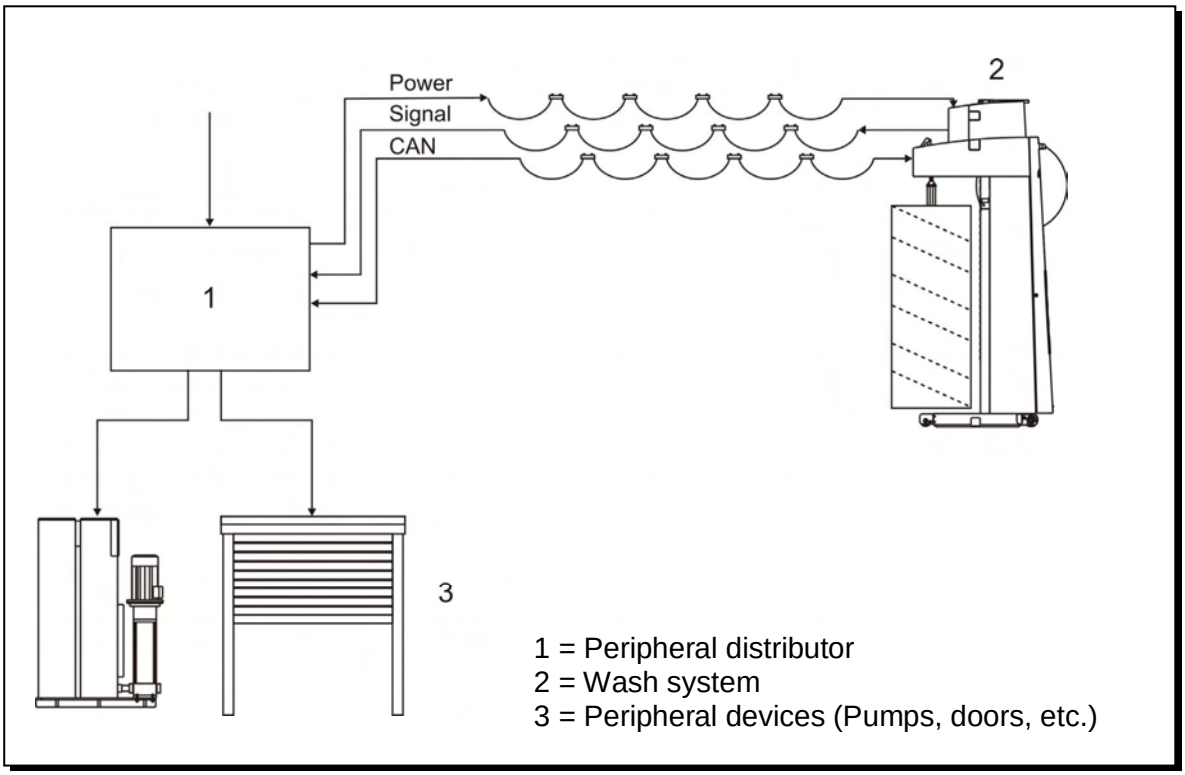


Fig. 3-2: Complete System

The energy provided by the customer is fed into the peripheral distributor (1). The peripheral distributor distributes the energy to the wash system and to the peripheral devices such as pumps and rolling shutter doors, contains the energy elements and exchanges data between wash system and peripheral devices.

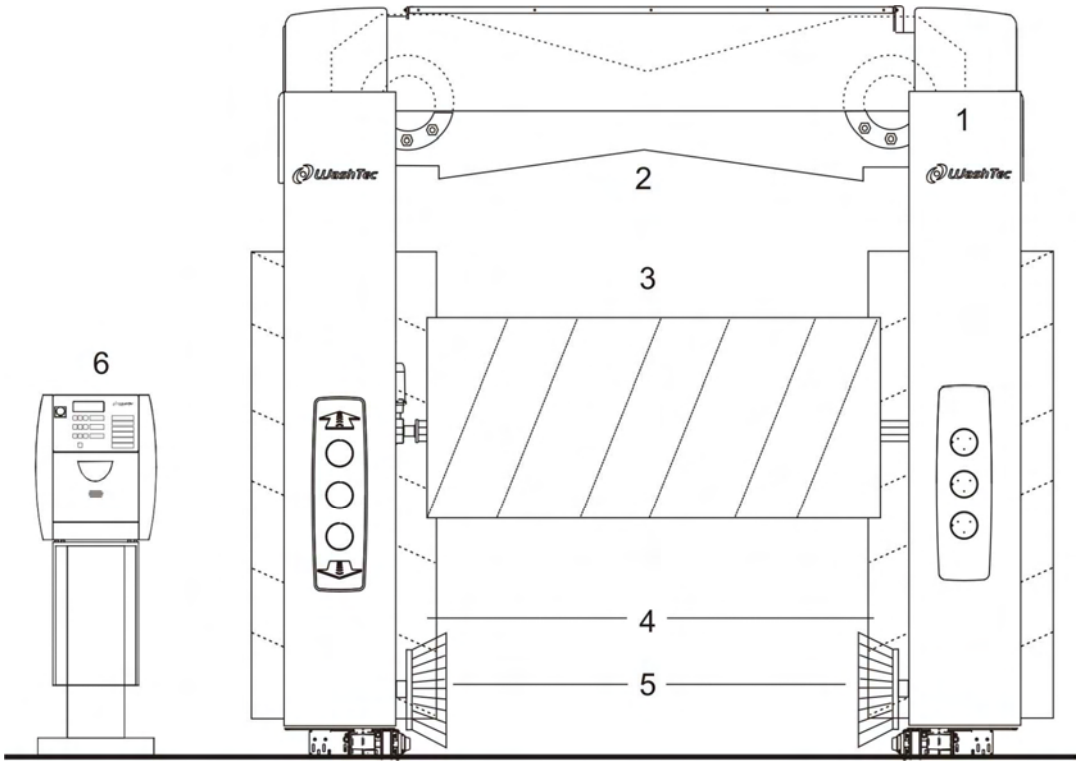
PV0

The peripheral distributor PV0 is the basic version. A maximum of 3 signals may be transmitted from the wash system to the peripheral devices.

PV1-PV2

The peripheral distributors PV1and PV2 are intelligent distributors. Data exchange is handled by a CAN-Bus. A separate signal line is not used. The peripheral distributors PV1and PV2 differentiate among each other by the number of signals which may be processed and by the number of power elements.

3.2. Mechanical structure



1 = Frame
2 = Drier system
3 = Roof brush
4 = Side brushes
5 = Wheel washer (option)
6 = Operating unit

Fig. 3-3: Roll-over wash system- front view

Frame

The self-supporting stainless-steel frame forms the main framework of the roll-over wash system. The two side elements contain the control cabinet on the right and the fluid technical system on the left side. They act as supporting elements for the upper frame. There is a base with a travel mechanism below each side element.

Side brushes

The side brushes are connected directly to the rotary drive by shafts. The side brushes are mounted to self-aligning bearings for precise adaptation to the vehicle contours.

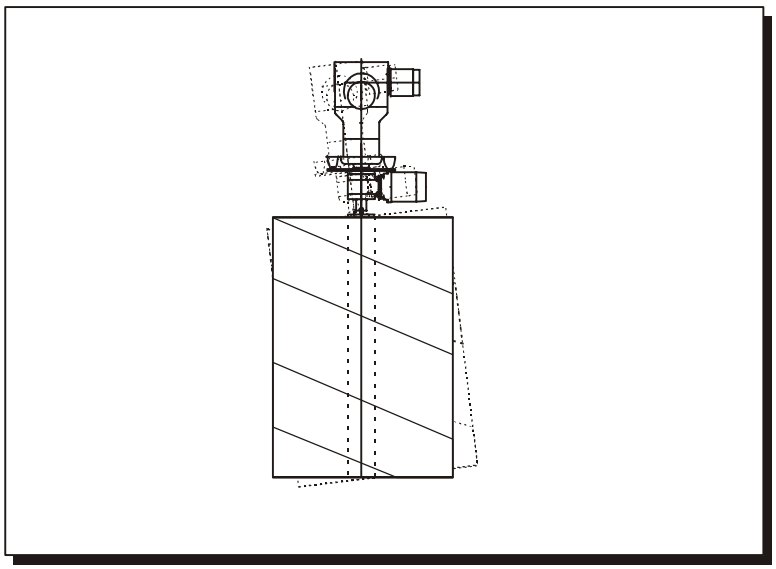


Fig. 3-4: Side brushes on movable bearings

During the washing stage, the vehicle contour is recorded electronically by measuring the contact pressure of the side brushes. The microprocessor control system regulates the position and consequently the contact pressure of the side brushes based on the measured data.

NOTICE

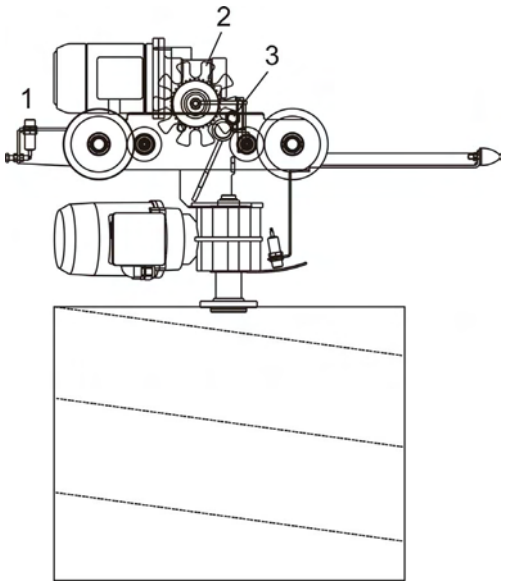
The roll-over wash system is pre-set in the factory with the optimum settings for the type of brushes installed on commissioning. If other brush material is used, adjustments must be made by WashTec Service.

Only original WashTec brushes and coverings may be used. If other brushes are used, no guarantee whatsoever can be provided for the function of the system.

Positioning side brushes

The positioning of the side brushes in their outer stop position (home position) is controlled by proximity switches in the cross beam. The servo drive will be stopped as soon as the switching cam covers the proximity switch.

The inward positioning of the side brushes is controlled by a pulse counter (breaker plate (2) and proximity switch (3)). The pulse counter determines the length of run of the side brush.



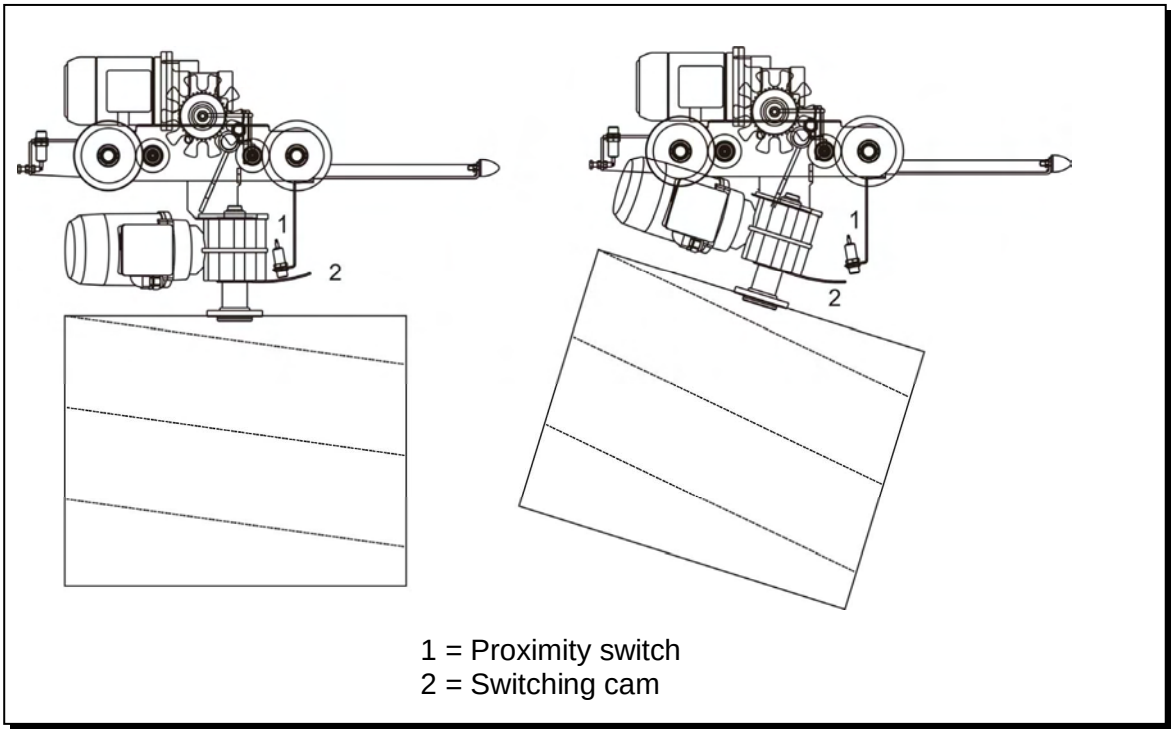
1 = Proximity switch home position
2 = Breaker plate
3 = Proximity switch pulse counter

Fig. 3-5: Positioning side brushes

Controlling side brushes

The side brushes are mounted in self-aligning bearings. The degree of displacement of the side brush is determined by a proximity switch (1) and a switching cam (2). The permitted degree of displacement is exceeded as soon as the switching cam uncovers the proximity switch.

In this case the gantry is stopped and the side brushes perform a corrective movement. The system will be switched off if the proximity switch is not covered afterwards. An error message will be displayed on the operating unit.



1 = Proximity switch
2 = Switching cam

Fig. 3-6: Controlling side brushes

Lifting system for roof brush and roof drier

Roof drier and roof brush are lifted or lowered by one lifting system. The system consists of the lift drive, a lift axle, a coil disc (on one side directly connected to the lift drive) and two flat belts.

A breaker plate is fastened to the lift axle on the drive side. This breaker plate serves together with a proximity switch as a pulse counter. The pulse counter is used to determine the length of run of the roof drier or the roof brush.

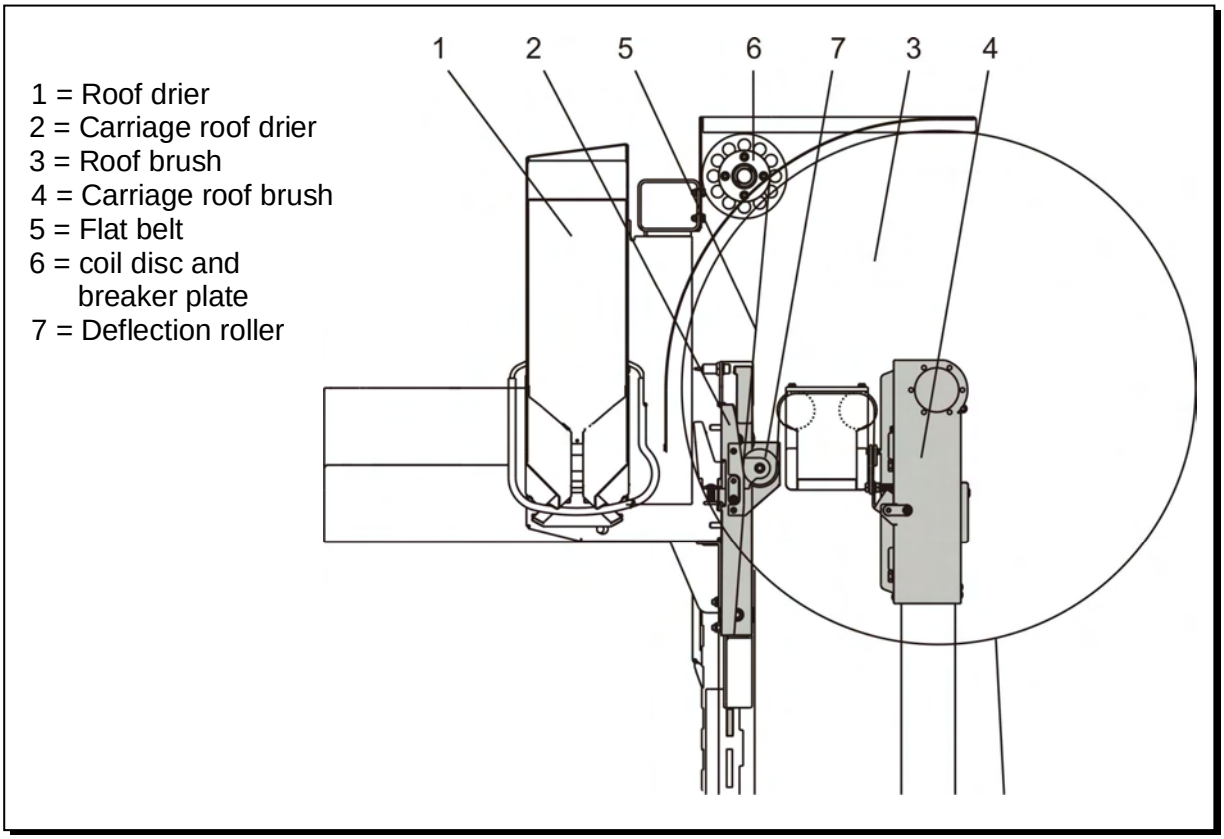


Fig. 3-7: Lift system

While unwinding the flat belt the roof drier is lowered first because of the higher weight. The roof brush remains in the upper stop position.

If the roof brush should be lowered two cylinders extend the roof drier brackets on both sides out of the side frame. The roof drier will be positioned on the brackets. The flat belts are directed across the deflection rollers and the roof brush will be lowered.

1 = Carriage roof drier
2 = Flat belt
3 = Lift drive
4 = Bracket for roof drier
5 = Cylinder

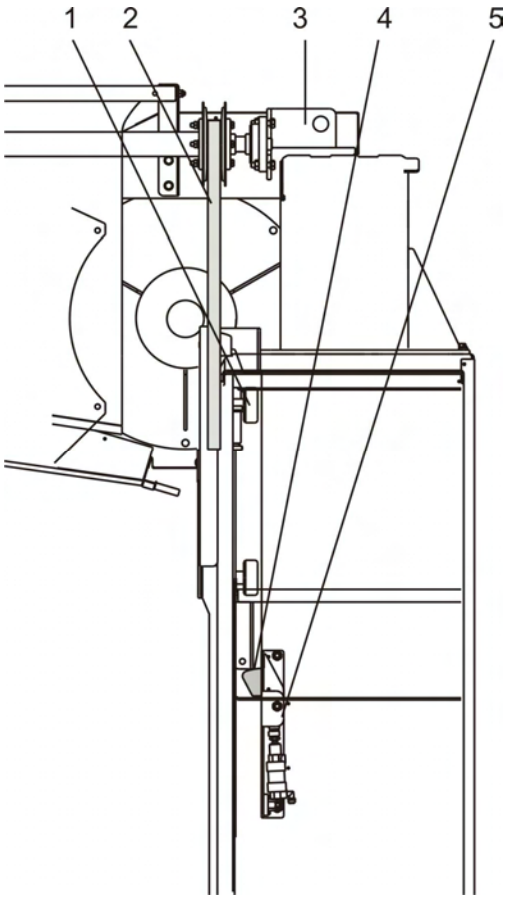


Fig. 3-8: Positioning of roof drier on brackets

Controlling the roof drier and the roof brush

The position of roof drier and the roof brush are controlled by three proximity switches and the pulse counter.

1+2 (ES-Side) = Proximity switch + switching cam for roof drier home position.
3+4 (ES-Side) = Proximity switch + switching cam for roof brush home position.
5+6 (MS-Side) = Proximity switch + switching cam for roof drier arrested on brackets (without illustration)

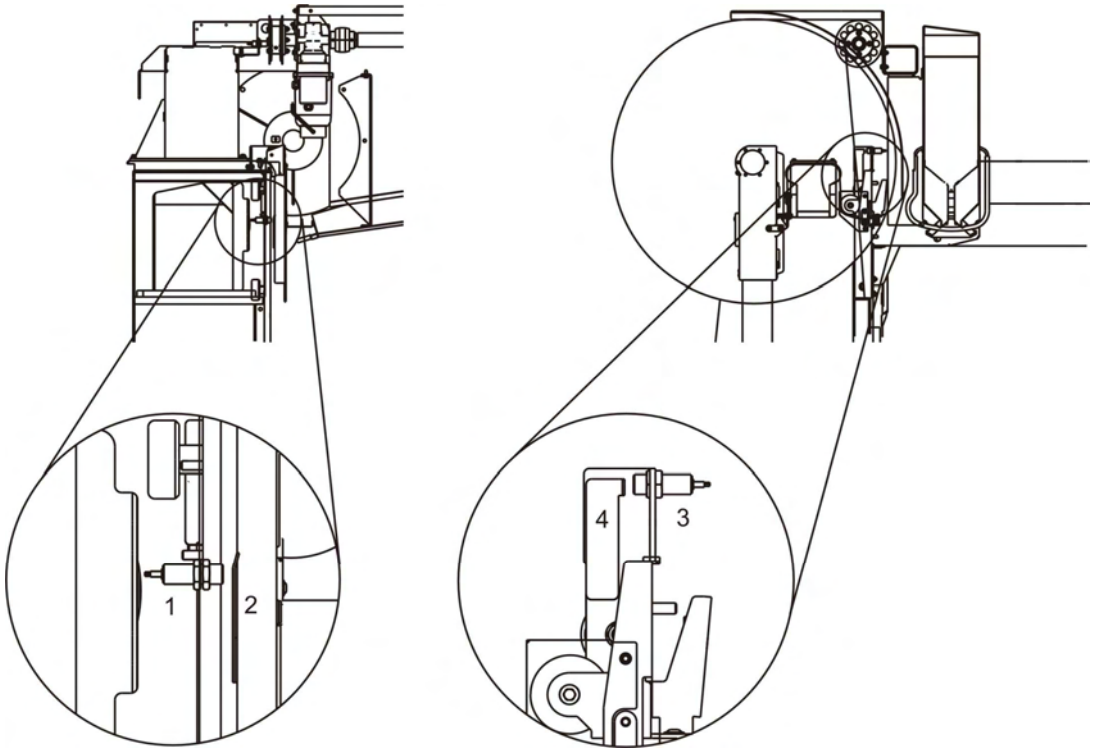


Fig. 3-9: Proximity switches roof drier and roof brush

NOTICE

The position of the proximity switches and the switching cams depends on the machine type. The illustration shows the position for machine type 24 + 28.

Roof brush

The roof brush is connected directly to the rotary drive (2) by a shaft (1). Up and down movements are executed steplessly by means of flat belts (3) and the lift drive.

1 = Shaft
2 = Rotary drive
3 = Flat belt

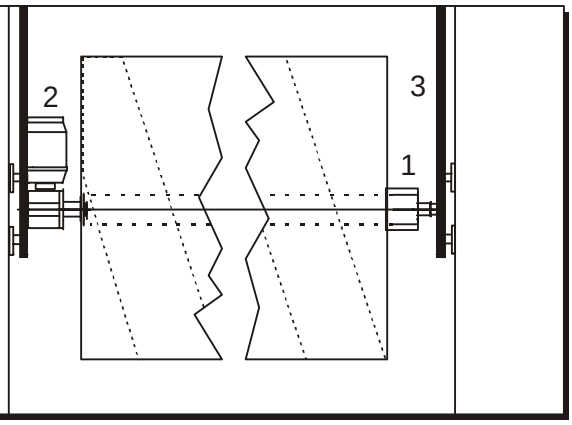


Fig. 3-10: Roof brush

During the washing stage, the vehicle contour is memorised electronically by measuring the contact pressure of the side brushes. The central control system regulates the up and down movement on the basis of these measured data.

NOTICE

The roll-over wash system is pre-set in the factory with the optimum settings for the type of brushes installed on commissioning. If other brush material is used, adjustments must be made by WashTec Service.

Only original WashTec brushes and coverings may be used. If other brushes are used, no guarantee whatsoever can be provided for the function of the system.

Drier system

In the standard version the drier system is designed as an integral nozzle. Optionally the system may be equipped with a roof drier with light barriers and side blowers (see chapter 3.2. “Additional equipment – mechanical”).

The integral nozzle is mounted on guide rails. Up and down movements are executed steplessly by means of flat belts and the lift drive.

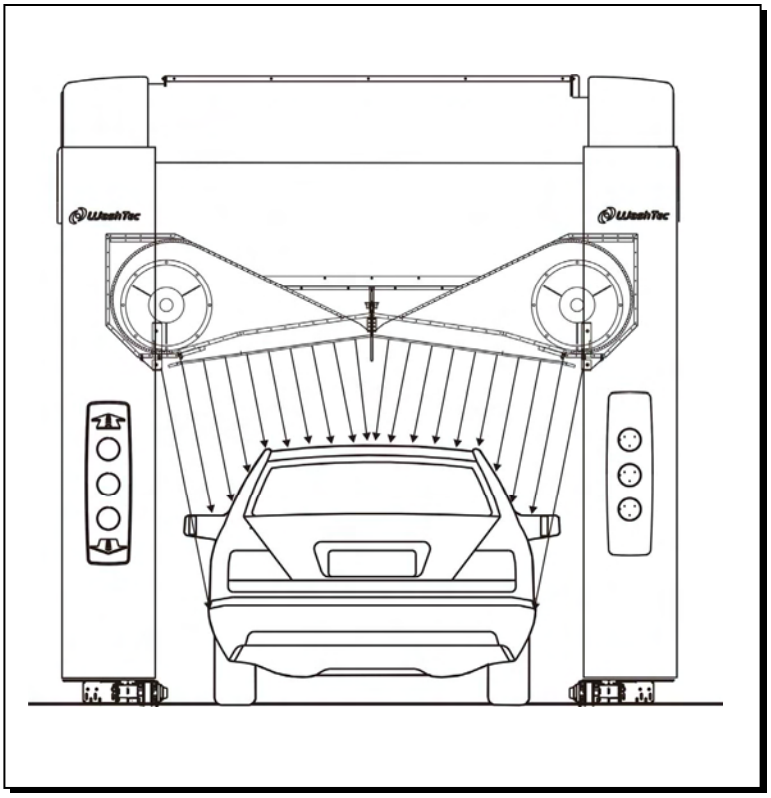


Fig. 3-11: Drier system

During the drying stage, the control system uses the vehicle contour it has memorised during the washing stage.

Safety ring switch

There is a safety ring switch (1) located at the centre of the nozzle.

As soon as the safety ring switch touches a vehicle during the drying stage, the gantry is stopped and the roof nozzle makes a correcting movement (upwards). If the safety ring switch is thereby not released the system is switched off. The display on the operating terminal shows an error message.

If the safety ring switch touches a vehicle during the wash stage which is too high, the system is switched off. The display on the operating terminal shows an error message.

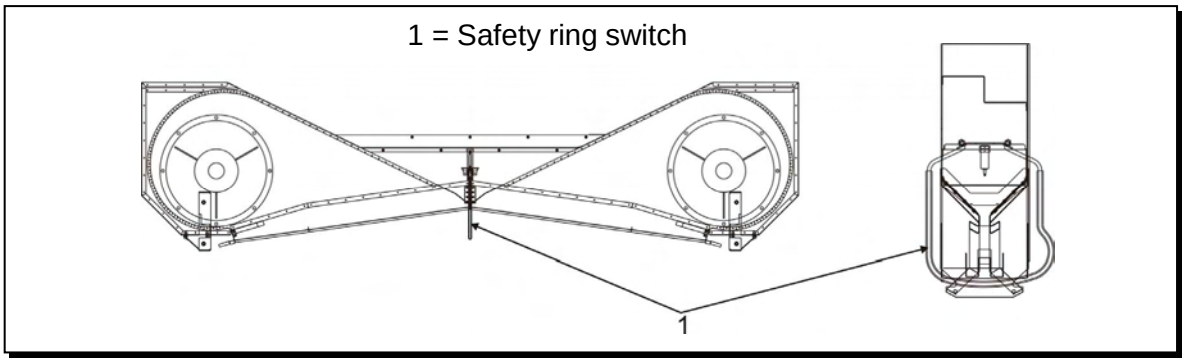


Fig. 3-12: Roof nozzle with safety ring switch

⚠ CAUTION

Faulty safety ring switches can cause damage to vehicles.

☞ **Check the safety ring switches every day before starting up (see Chapter 4, "Commissioning")**

Obstacles on the vehicle (taxi signs, ski-holders, etc.) may not, in some circumstances, be detected, and can be damaged.

☞ **Override obstacles manually (see chapter 9, "Operating units")**

3.3. Additional equipment - mechanical

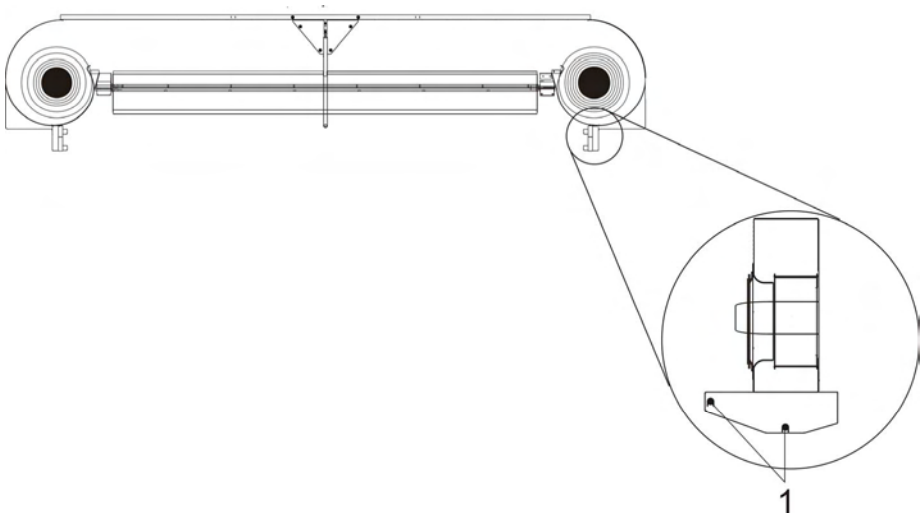
Depending on the model, your roll-over wash system will have various kinds of additional equipment.

Roof drier with attached light barrier system

If the system is equipped with a contour controlled high-pressure system, a vehicle moving device or if drying of the vehicle should be performed without previous brush wash, a roof drier with attached light barriers is installed.

The light barrier system at the roof nozzle is used to control the up and down movement of the roof nozzle. This is always necessary when the vehicle contour has not already been captured by the roof brush and when the roof nozzle should follow the vehicle contour as accurate as possible, e.g. during the contour controlled high-pressure cleaning.

The light barriers are positioned to the left and right of the roof nozzle (1).



1 = Light barriers

Fig. 3-13: Position of the light barriers

⚠ CAUTION

Defect light-barriers can cause damage to vehicles.

☞ **Observe the operating unit for failure messages during start-up of the system.**

Obstacles on the vehicle (taxi signs, ski-holders, etc.) may not, in some circumstances, be detected, and can be damaged.

☞ **Override obstacles manually (see chapter 9, "Operating units").**

Side blowers

If the system is equipped with a roof drier with attached light barriers, side blowers may be installed additionally. They consist of a blower and an air duct. They are installed in the side frames.

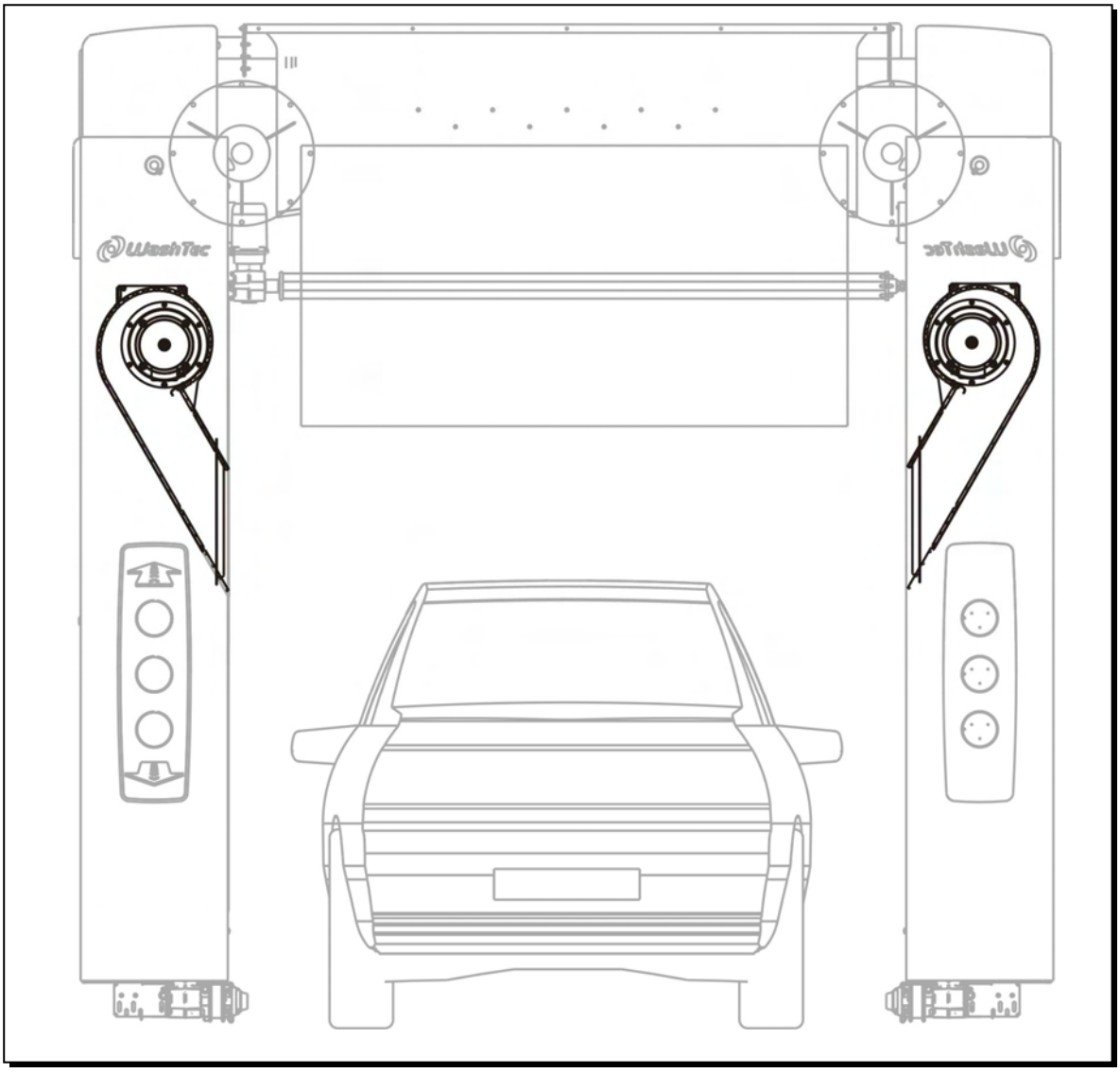
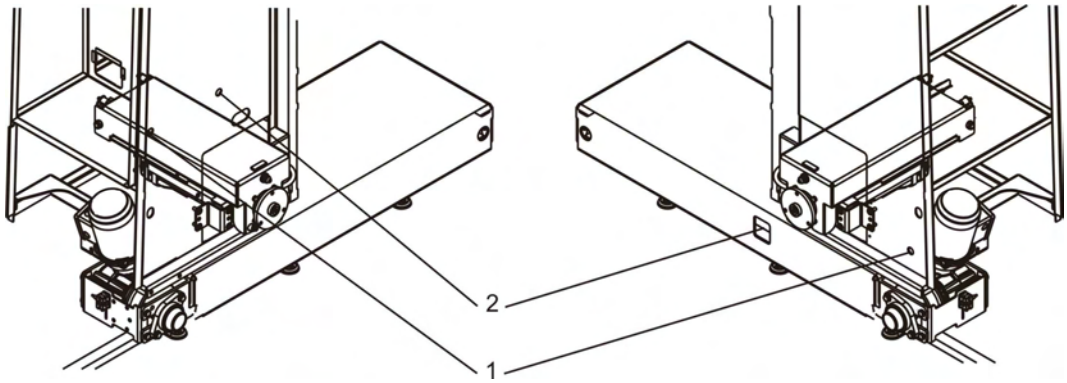


Fig. 3-14: Side blowers

Traffic lights

The traffic lights are the ideal solution for correct positioning of vehicles in the wash system. Two light barriers (1 and 2) determine the correct vehicle position. They are mounted in the two side elements, on one side the transmitters, and on the other the receivers.



1 = Light barrier stop
2 = Light barrier reverse

Fig. 3-15: Position of the light barriers

Three symbols are used to indicate how the vehicle should be positioned.



FORWARD

STOP

REVERSE

Fig. 3-16: Traffic light symbols

⚠ DANGER

Insufficient safety distances may cause severe accidents.

Systems where the safety distance does not comply to local regulations may not be operated without safety shutdowns.

In case the system has been modified afterwards in a way that the safety distance does not comply anymore to local regulations (i.e. installation of a heater, a wash basin, etc.) the wash system has to be refitted with a safety shutdown.

The safety shutdown feature is used in short or narrow buildings in which the safety distance specified by the valid, applicable local regulations cannot be maintained.

Safety shutdown front and rear side

The safety shutdown feature at the front and rear side consists of a pivoted cover and a proximity switch which is located in the lower side element. The system shuts down as soon as pressure is applied to the cover.

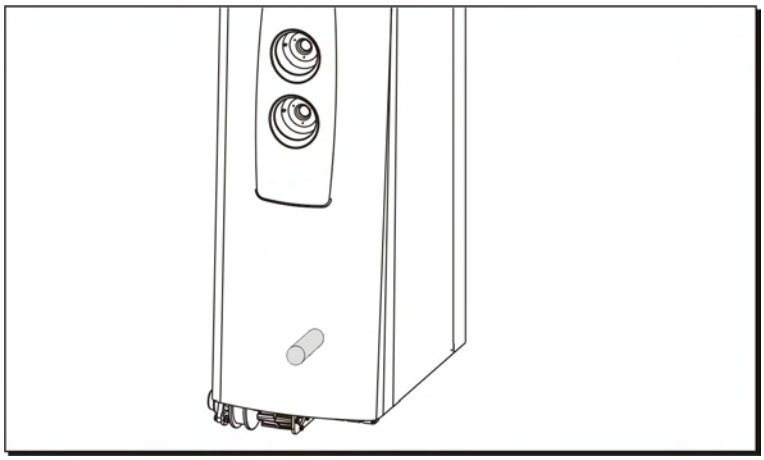


Fig. 3-17: Safety shutdown - front side

:

Outer sides

The safety shutdown at the outer sides consists of a swivel mounted splash guard and a switch which is mounted behind the splash guard in the lower section. The system shuts down as soon as pressure is applied to the splash guard.

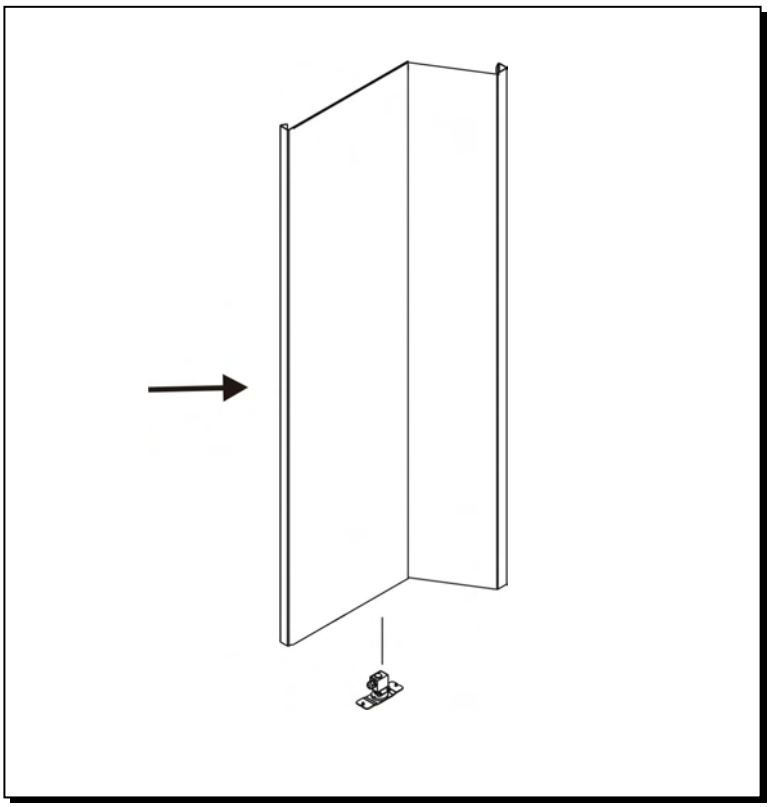


Fig. 3-18: Safety shutdown outer sides

⚠ DANGER

If the safety shutdown is faulty, people can get caught between the wall of the building and the wash gantry.

☞ **Check the safety shutdown every day before starting up the system (see Chapter 4 "Commissioning")**

Wheel wash brushes

The wheel wash brushes are integrated in both side elements and are driven directly. A light barrier (LS3) detects the wheel.

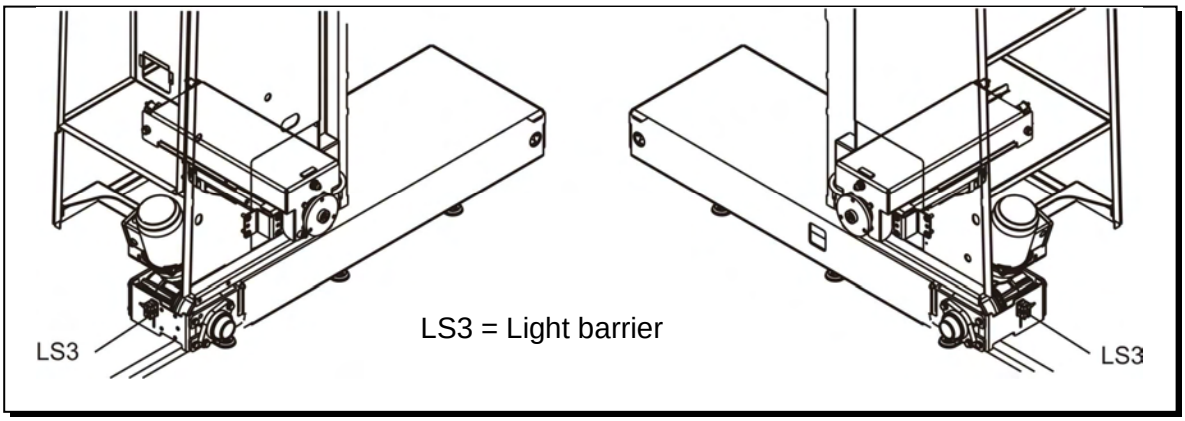


Fig. 3-19: Wheel was brush

The wheel washing stage takes place during the forwards wash in the following sequence:

⇒ The light barrier detects the wheel
⇒ The gantry comes to a standstill
⇒ The wheel wash brush is extended
⇒ The wheel is washed
⇒ The wheel wash brush returns to its starting position
⇒ The gantry starts again

⚠ CAUTION

Vehicles with rear wheel cladding may be damaged in automatic operating mode.

☞ **The wheel wash brushes must be controlled manually (see Chapter 9 "Operating units").**

NOTICE

The water supply for the wheel washer will be switched on and off together with the pre-rinsing.

Wheel wash brushes-High-pressure spray system (only for 70-bar version)

This high-pressure (HP) system gives the wheel wash brushes additional cleaning power when cleaning the wheels. In addition it cleans the lower sides of the vehicle.

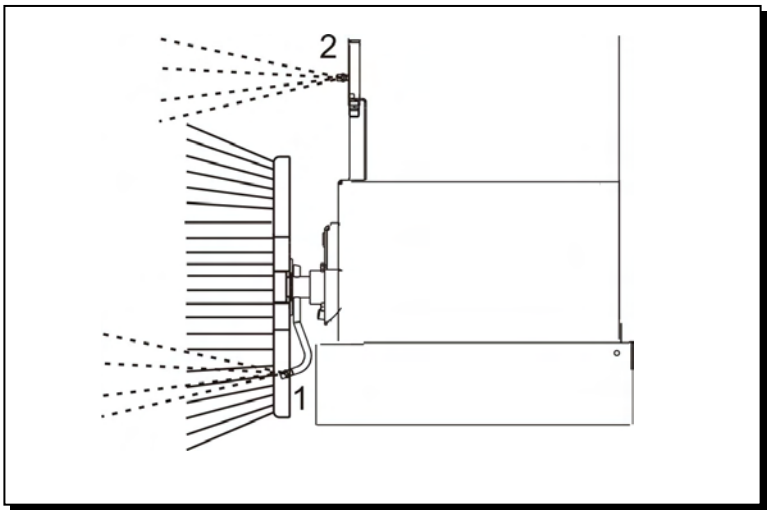


Fig. 3-20: High pressure wheel washer

One nozzle in the wheel wash brush (1) and one additional nozzle (2) above the wheel washer spray water with high pressure onto the wheels and the lower vehicle sides.

The procedure for cleaning the wheel is identical to the procedure for the standard wheel wash brush.

The high pressure cleaning is started as soon as the front of the vehicle is detected and stops with detection of the vehicle rear.

NOTICE

The high-pressure wheel washer may be combined with a side high-pressure system. In this case the spray nozzles are designed differently (see page 3-38).

3.4. Fluid technical system

The fluid technical system is made up of the following elements:

- Fluid system (1)
- Spray system (2)

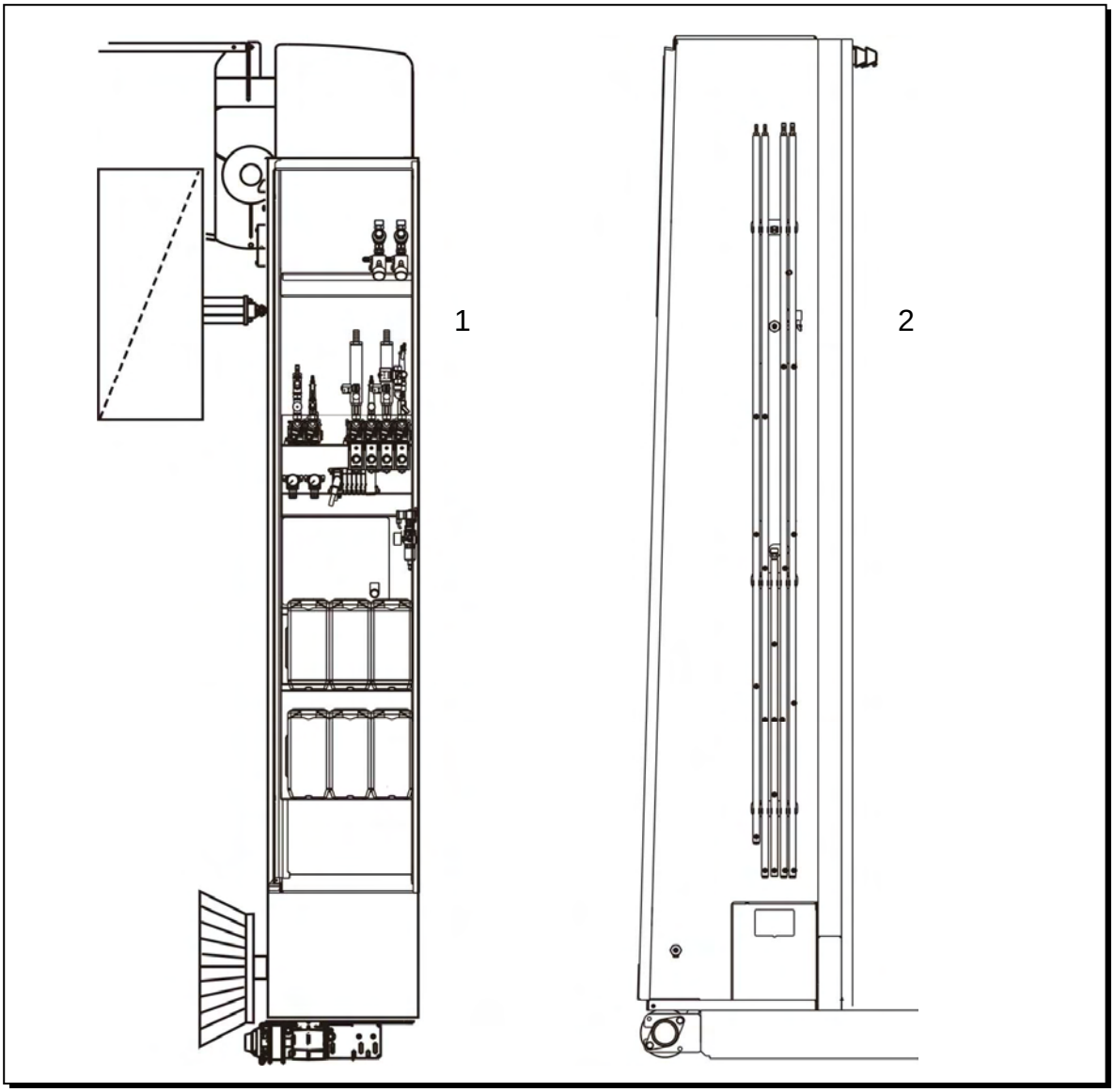


Fig. 3-21: Fluid technical system

Fluid system

The fluid system is located in the left side element of the gantry and is made up of the following elements:

- Low-pressure water distribution (1)
- Dosing pumps and cleaning agent containers (2)
- Pneumatic system (3)
- Peripheral control box (4)
- Heater/Freeze protection (w/o. Illustration)

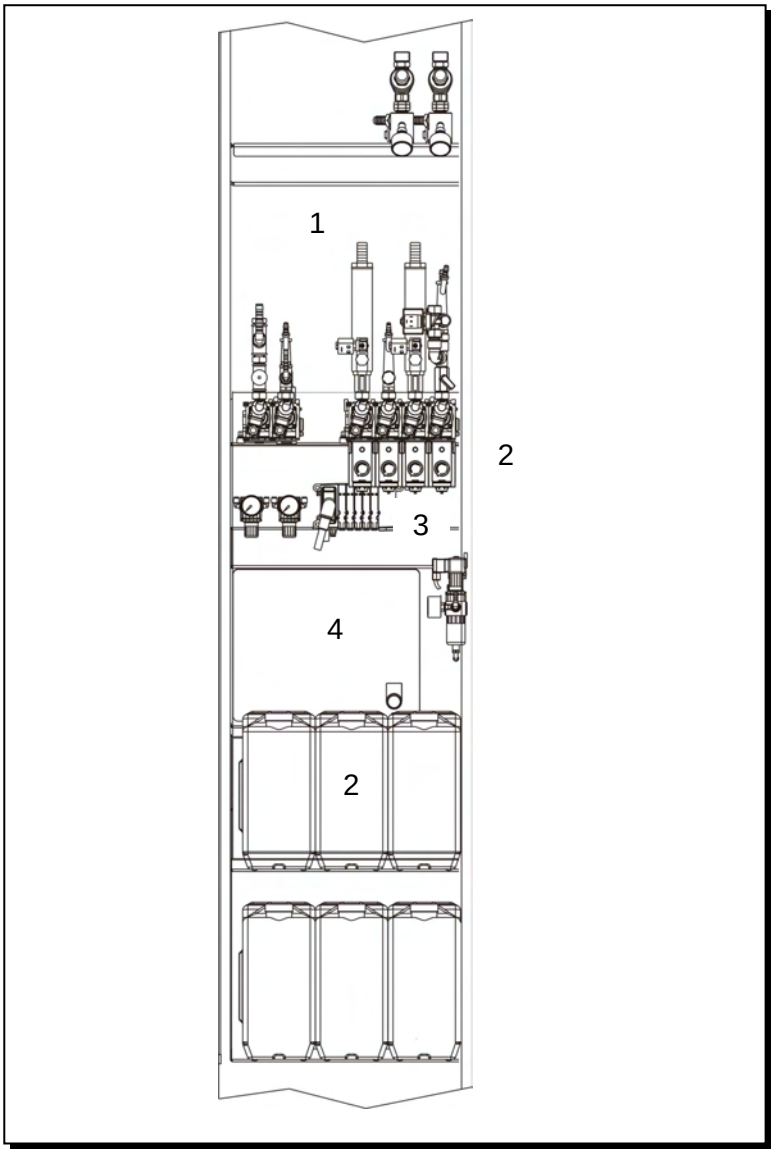


Fig. 3-22: Fluid system

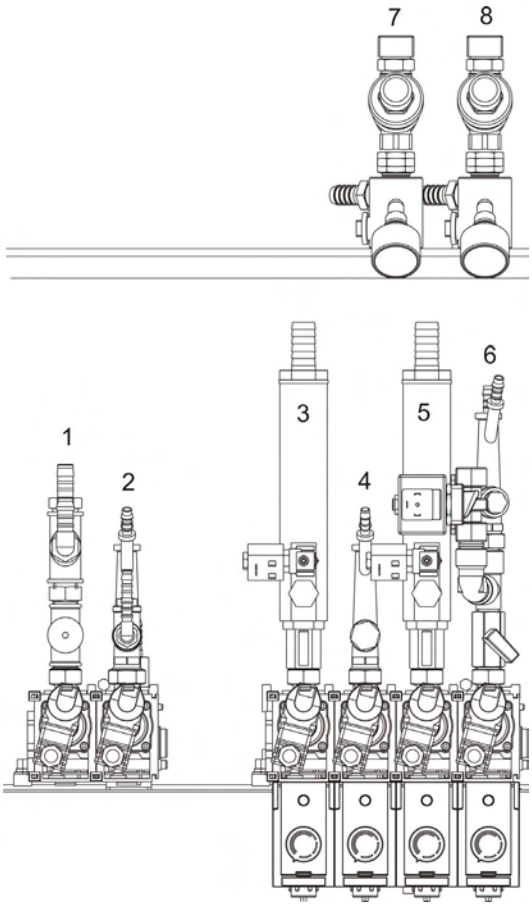
NOTICE

Each chemical system (Shampoo, foam, etc.) is colour coded, e.g. Shampoo = yellow.

Low-pressure water distribution

The low-pressure water distribution distributes the water which is supplied by the two inlets (Fresh water and process water) to the individual spray systems.

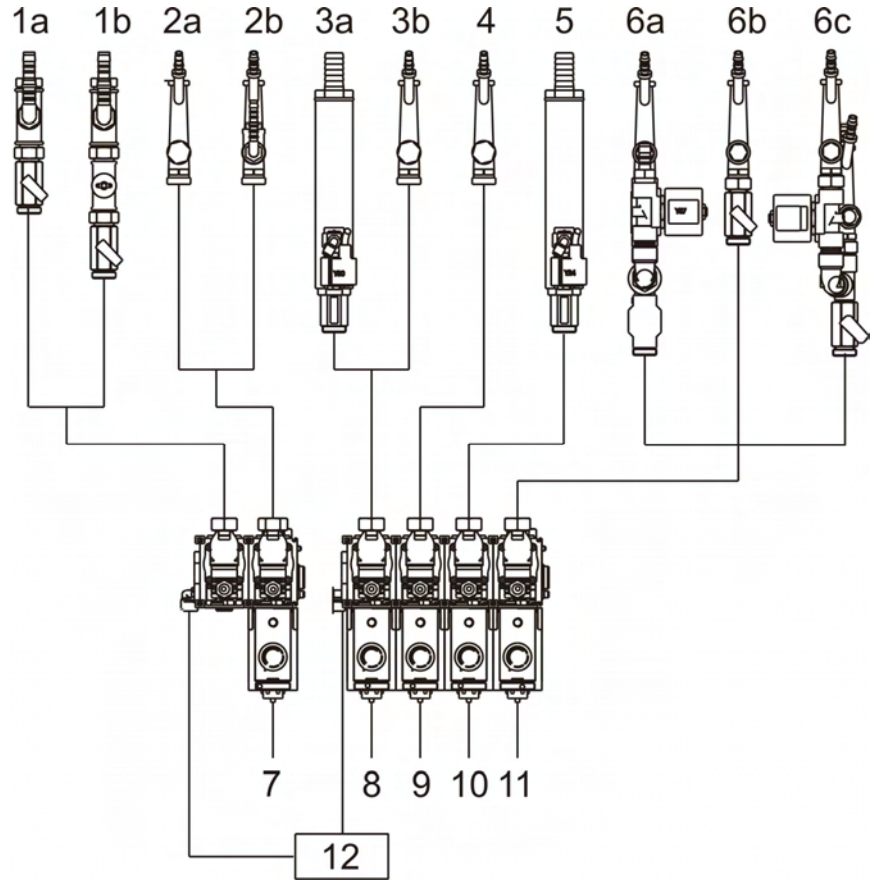
It has a modular structure and varies depending on the configuration of the system. The illustration shows the maximum configuration of the water distribution. Different versions as well as the water inlets are described on the next pages.



Pos.	Valve	Function
1	Y2	Brush wetting
2	Y1	Pre-rinsing
3	Y5/Y7	Wax care/ Extra Preservation
4	Y8	Chemical pre-wash
5	Y4	Foam pre-wash
6	Y6	Post-rinsing
7		Inlet process water
8		Inlet fresh water

Fig. 3-23: Low-pressure water distribution (Fresh and process water)

The illustration below shows the different versions of the water distribution.

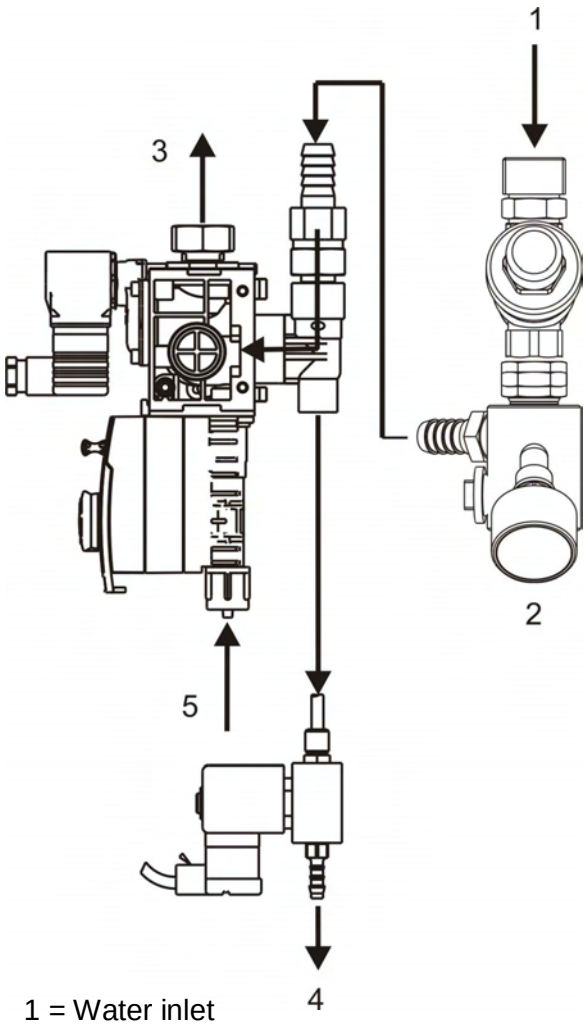


1a	=	Brush wetting
1b	=	Brush wetting with dry-run protection
2a	=	Pre-rinsing
2b	=	Pre-rinsing with wheel washer
3a	=	Extra preservation
3b	=	Wax care
4	=	Chemical pre-wash
5	=	Foam pre-wash
6a	=	Post-rinsing with chemical drying agent
6b	=	Post-rinsing primary
6c	=	Post-rinsing secondary
7-11	=	Suction lines
12	=	Cleaned compressed air

Fig. 3-24:Versions of low-pressure water distribution

Water supply

At systems with mixed water supply the inlet of fresh water and process water are separated. At systems without a process water system both inlets are supplied with fresh water.



1 = Water inlet
2 = Pressure gauge
3 = Too spray system
4 = Outlet freeze protection
5 = Cleaning agent

Fig. 3-25: Water supply

NOTICE

Water and air pressure have been optimally adjusted by WashTec Service during initial commissioning of the system.

A modification of the settings may cause a deterioration of the washing result.

Dosing pumps and Cleaning containers

The electrically controlled dosing pumps (1) draw the cleaning and care products from the relevant cleaning agent containers (2) and feed them directly into the relevant distributor.

1 = Dosing pumps

2 = Cleaning agent containers

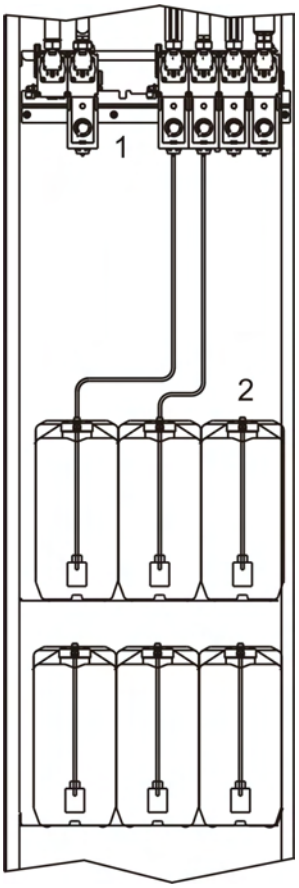


Fig. 3-26: Dosing pumps and cleaning agent containers

NOTICE

If a cleaning agent container has been emptied completely, the dosing pump has to be refilled with the cleaning agent.

☞ **Fill the dosing pump as described in chapter 6 „"Operation and settings").**

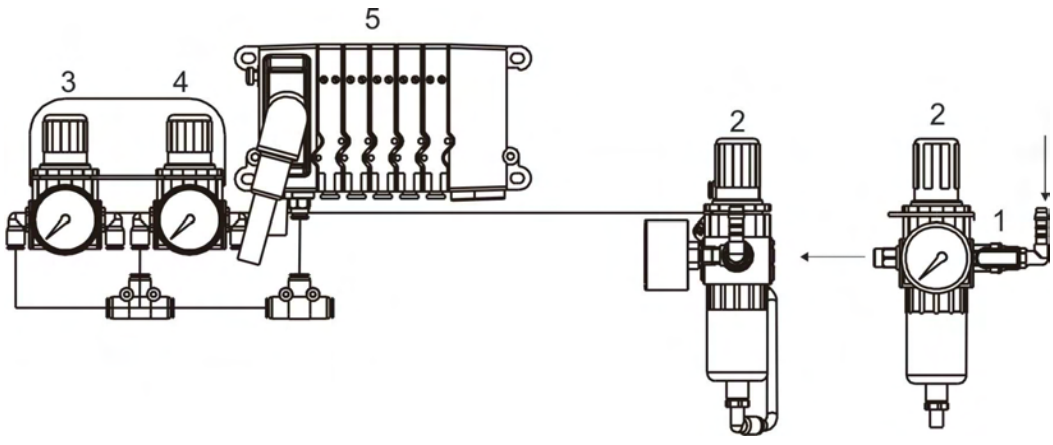
Pneumatic system

The pneumatic system controls the pneumatic components in the system. The compressed air supply can be opened and closed by using a ball valve (1). A filter pressure regulator (2) is located behind the ball valve. The filter pressure regulator cleans the compressed air from destructive particles and regulates the compressed air which is provided by the customer to the main pressure of approx. 6 bar.

Besides the main pressure the system is using reduced air pressure for several tasks. These are adjusted to the required value by additional pressure regulators.

Set value main pressure: approx. 6 bar

Pressure regulator wheel washer:
Set value approx. 3 bar
Pressure regulator foam:
Set value approx. 2,5 bar



1 = Ball valve
2 = Filter pressure regulator
3 = Pressure regulator wheel washer
4 = Pressure regulator foam
5 = Pneumatic valves

Fig. 3-27: Pneumatic system

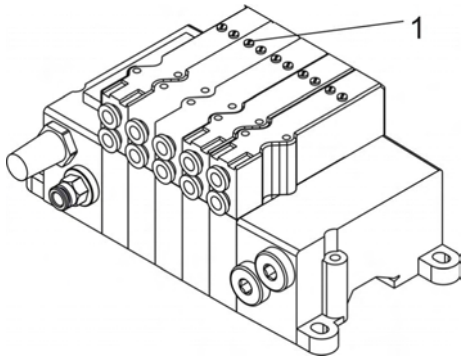
⚠ CAUTION

The air pressure has been optimally adjusted by WashTec Service during initial commissioning of the system.

A modification of the settings may cause malfunctions of the system and thus damage the system and/or vehicles.

Pneumatic valves

The pneumatic valves are used to control all pneumatic components and devices.



1 = Manual operation switches

Fig. 3-28: Pneumatic valves

NOTICE

The Manual operation switches (1) must be set to position 0 when the system is operated in automatic mode.

⚠ DANGER

There is a risk of injury if the manual operation switches are in position 1. Pneumatic units may suddenly be moved.

Pay attention that no person is close to devices which are manually actuated by the pneumatic valve.

Peripheral control box

A peripheral control box is used to control the components in the resource cabinet. A CAN-Bus is used for data exchange with the main controller.

A pressure button for manual filling of the dosing pumps is located on the front of the peripheral control box (see chapter 6.2).

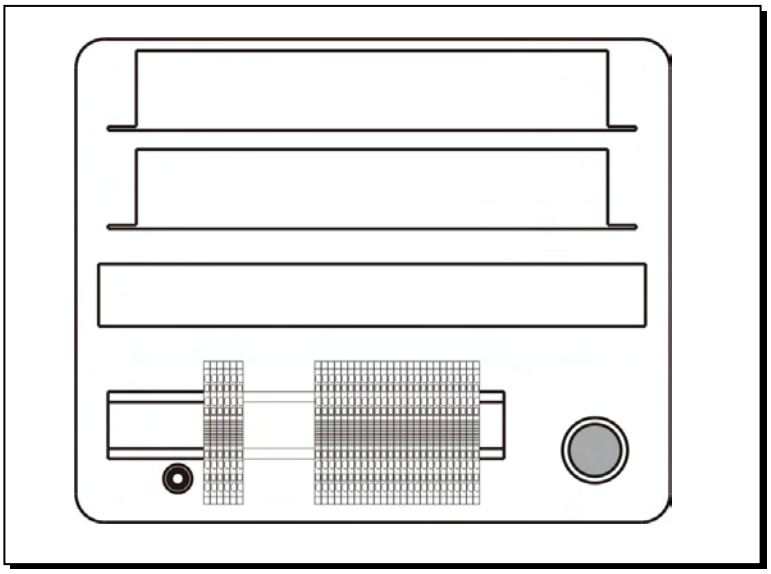


Fig. 3-29: Peripheral control box

Heater

The heater in the resource cabinet guarantees a safe operation during low temperatures. The temperature sensor is located in the resource cabinet as well. The heater is switched on as soon as the current temperature drops more than 2° below the set temperature.

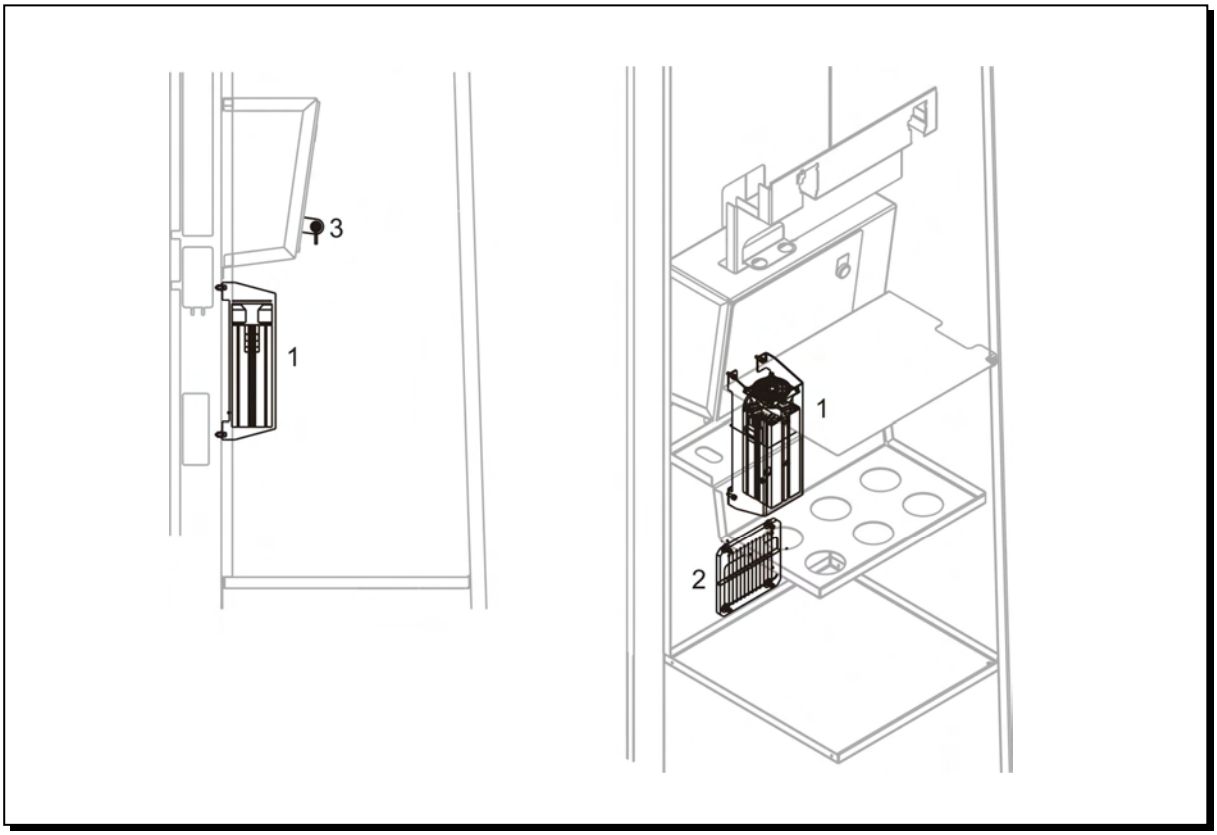


Fig. 3-30: Heater

Setting of the temperature is done in the service program 0370 (see chapter 9.1.5. „Service programs“).

Freeze protection

The freeze protection device provides protection from frost damage to the water system for roll-over wash systems that are installed outdoors or which are not protected from frost. A temperature sensor controls the temperature. If the temperature drops 2° below the temperature set-point, the executing wash program will first be finished. Afterwards the freeze protection program will be started to drain all spray systems.

Setting of the temperature is done in the service program 0371 (see chapter 9.1.5. „Service programs“).

The roll-over wash system cannot execute a wash program while the freeze protection program is running.

NOTICE

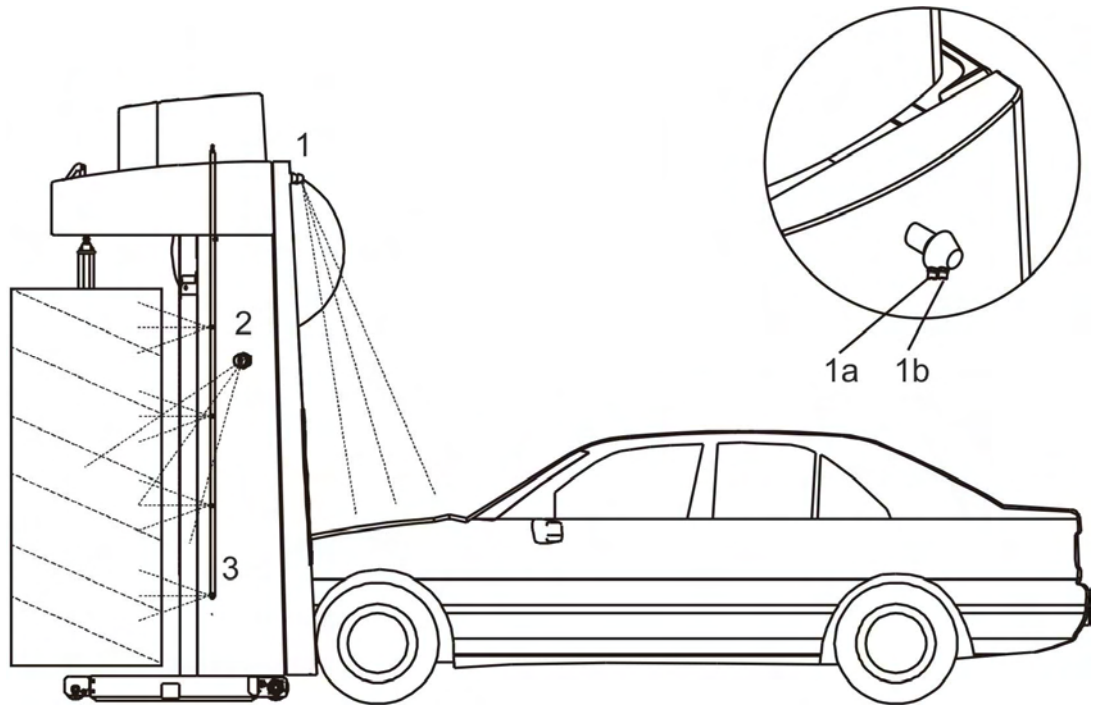
In order for the freeze protection device to function correctly, the water supply must be installed in a room that is frost protected. All supply lines must be laid with frost protection.

The freeze protection program does not work when the main switch or the compressed air are switched off or if the emergency-off button is pressed. This may cause damage to the system.

Spray system

Depending on the configuration your roll-over wash system may be equipped with a varying number of spray heads and spray pipes.

The spray pipes are connected with hoses to the water distribution.



1a = Pre-rinsing
1b = Post-rinsing primary
2 = Post-rinsing secondary
3 = Brusch wetting

Fig. 3-31: Spray system - standard

Pre-and post-rinsing (1+2)

The pre-rinse is used to remove most of the dirt from the vehicle. Either recycled or fresh water is used for this purpose, depending on the roll-over wash system model.

NOTICE

The water supply for the wheel washer will be switched on and off together with the pre-rinsing.

The purpose of the post-rinse is to rinse off the vehicle with fresh water after it has been washed. A chemical drying aid can also be applied during this stage.

NOTICE

Optionally the system may be equipped with a secondary post-rinsing.

NOTICE

The water pressure for pre-rinsing can be adjusted at a separate ball valve.

Do not reduce the flowing pressure at the fresh water inlet because this will also change the mixing ratio of the foam system.

Brush wetting (3)

The purpose of the brush wetting system is to keep the brushes covered with water during the washing stage. In the first washing stage they are supplied with water and shampoo and in the second washing stage just with water. Either fresh or recycled water may be used for this purpose, depending on the roll-over wash system model.

3.5. Additional equipment - spray system

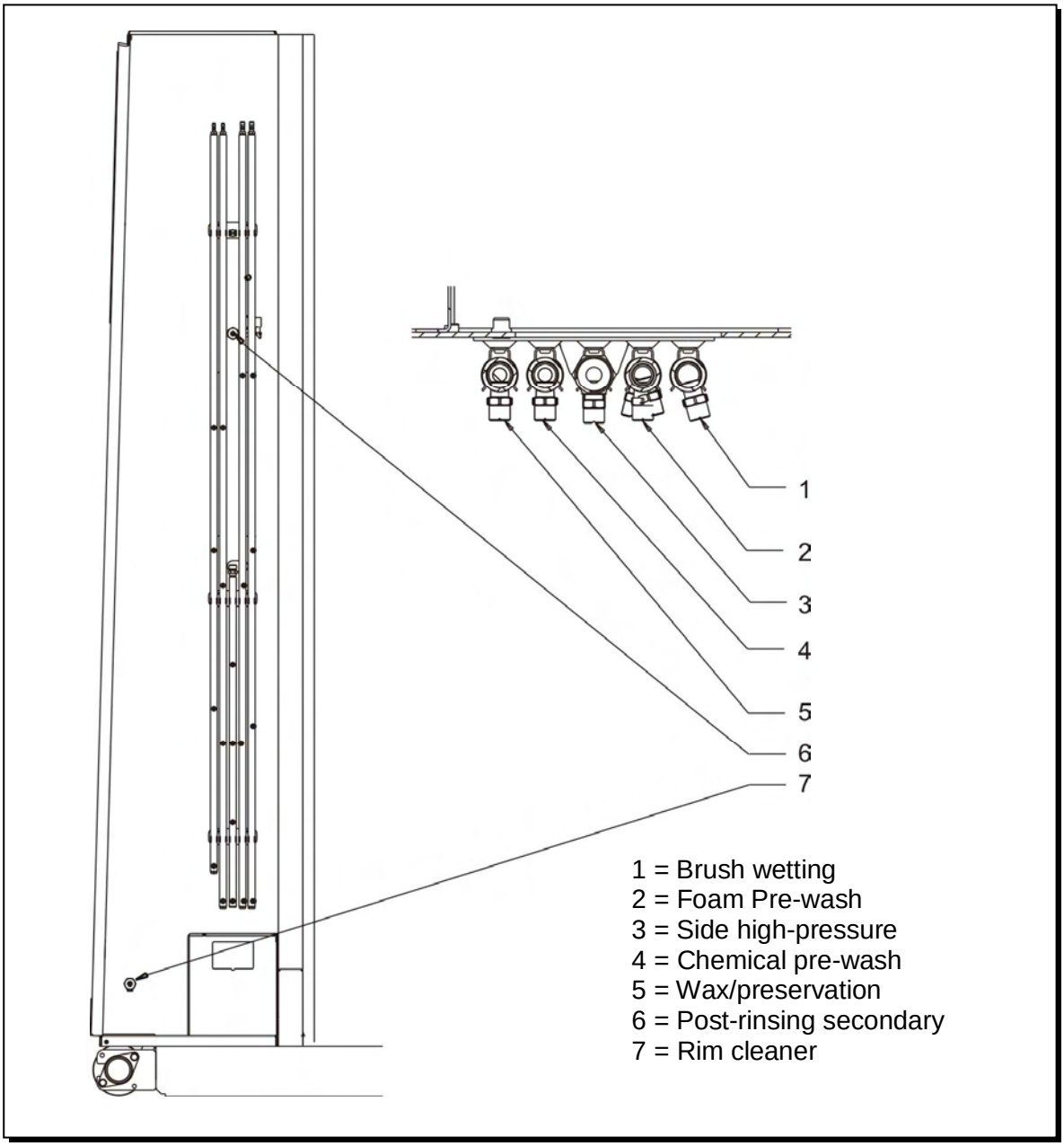


Fig. 3-32: Optional spray system

The illustration shows the maximum system configuration without side drier.

Your system may deviate from the illustration depending on the actual configuration. The position of the spray pipes remains thereby unchanged. The illustration below shows a spray system without side high-pressure and wax/preservation.

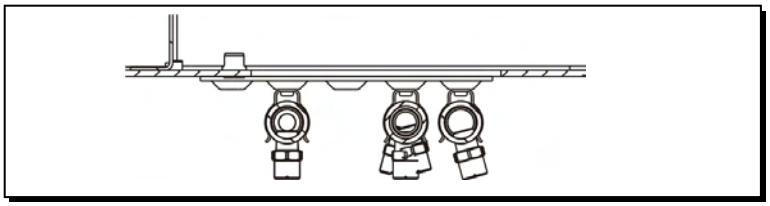


Fig. 3-33: Reduced spray system

Foam pre-wash (2)

The foam device sprays a dirt- softening, highly foaming shampoo onto the surface of the vehicle.

Chemical pre-wash (4)

The chemical pre-wash sprays a dirt-softening chemical solution onto the surface of the vehicle during a separate stage.

NOTICE

The best cleaning result is achieved with a liquid and fine blowy foam which flows down the vehicle. Dry foam does not absorb the dirt and has only a limited cleaning effect (see chapter 6 „Operation and settings“ for more information).

Secondary post-rinsing (6)

A secondary post-rinsing may be installed in short halls (less than 8750 mm hall length).

Procedure

When the gantry is moved backwards first the primary post-rinsing is turned on. While the gantry moves towards the vehicle front the primary post-rinsing is turned off and the secondary post-rinsing is turned on.

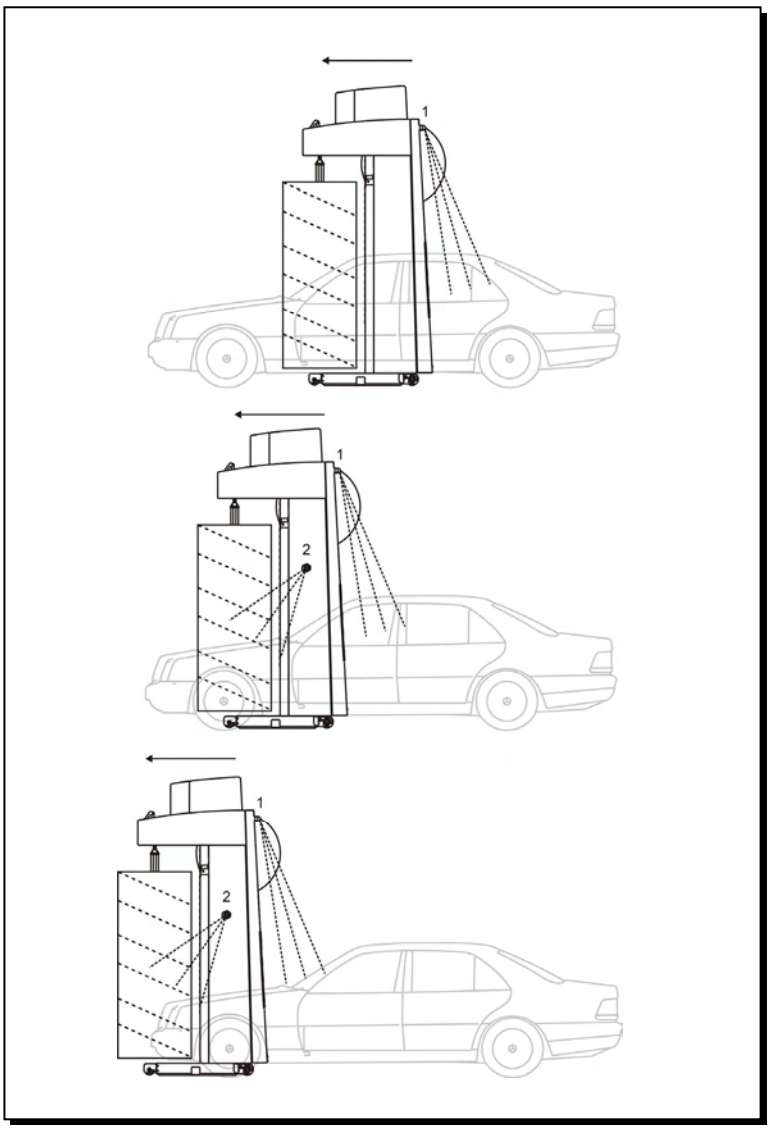


Fig. 3-34: Spray system – post-rinsing

Rim spraying device (7)

The rim spraying device applies a rim cleaner through a nozzle (7) as soon as the wheel is detected by the light barrier.

A separate rim cleaner pump (8) sucks the rim cleaner out of the cleaning agent container and leads it directly to the rim spray nozzle where it is applied undiluted. Information about setting and bleeding the rim cleaner pump can be found in chapter 6 „Operation and settings“.

7 = Rim spray nozzle
8 = Rim cleaner pump

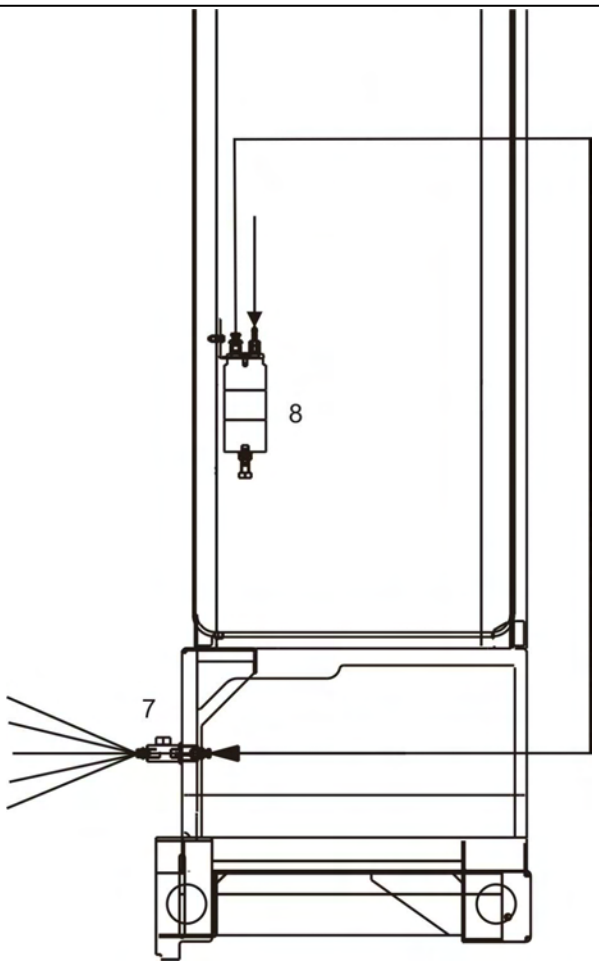


Fig. 3-35: Rim spraying device

The system may be equipped with four different high-pressure systems:

Side high-pressure (3)

The side high-pressure device cleans heavy soiling off the sides of the vehicle with high water pressure. Either fresh or recycled water may be used for this purpose, depending on the roll-over wash system model.

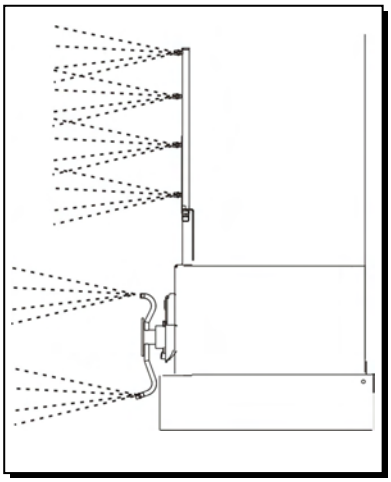


Fig. 3-36: Side-high pressure with high-pressure wheel washer – 16/40 bars

Side high-pressure with high-pressure wheel washer

The high-pressure wheel washer is always combined with four additional spray nozzles (see illustration on the right). Side and wheel will be cleaned with high pressure.

All-around high pressure – level controlled

The all-around high pressure system cleans the entire vehicle with high water pressure from heavy soiling. Either fresh or recycled water may be used for this purpose, depending on the roll-over wash system model. The level control operates depending on the height of the vehicle.

The roof nozzle is fastened to the integral drier. Additionally a light barrier is installed in the side elements in a height of approx. 1,6 m (Transmitter in one side, receiver in the other side). While the gantry moves forward, e.g. during chemical pre-wash or foam wash, the light barrier monitors if the vehicle is higher than the position of the light barrier (approx. 1,6 m).

If the vehicle is higher than 1,6 m the roof nozzle remains in the upper home position during high-pressure cleaning (gantry moves backward). If the vehicle is lower the roof spray nozzle is lowered to the level of the light barrier.

Contour controlled all-around high pressure

The contour controlled all-around high pressure system cleans the entire vehicle with high water pressure from heavy soiling. Either fresh or recycled water may be used for this purpose, depending on the roll-over wash system model.

This version uses a roof drier with an attached light barrier system (see chapter 3.2. „Additional equipment - mechanical“). The roof spray nozzle is fastened to the roof drier.

The contour control operates depending on the contour of the vehicle.

While the gantry moves forward, e.g. during chemical pre-wash or foam wash, the light barrier monitors the contour of the vehicle and stores this information.

While the gantry moves backward the vehicle will be cleaned with high pressure. The roof drier follows the contour of the vehicle.

For all high-pressure cleaning systems:

A separate pump station supplies the necessary amount of water at the correct pressure for the high-pressure cleaning system (see Chapter 10 "Additional equipment")..

Preservation system (5)

The preservation system applies preservative (e.g. foam wax) to the vehicle in a separate stage.

Osmosis

The osmosis device is responsible for drying the vehicle without water spots in situations where a drier system cannot be used. The osmosis water is used in place of fresh water in the post-rinse stage.

3.6. Control system and electronics

The control system is installed in control cabinet.

1 = Microprocessor control
2 = Transformer
3 = Circuit breaker
4 = Fuses
5 = Motor protection switches
6 = Conductors
7 = Frequency converters

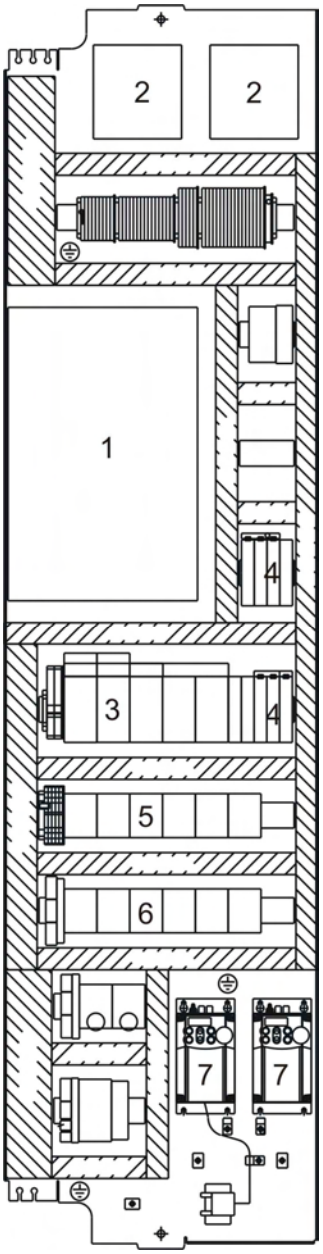


Fig. 3-37: Controller

⚠ DANGER

When the control cabinet door is opened, there is a risk of electrical shock injury when the system is switched on.

Switch the power off at the main switch and close the compressed air supply before you open the control cabinet door.

If the door must be opened with the system switched on in order to carry out certain maintenance, testing and adjusting work observe the following information:

- **This may only be done by authorized, qualified and fully instructed personnel who have received instruction from WashTec Service about potential dangers.**
- **Do not touch any parts and only carry out the work described in this operating manual.**

Microprocessor control

The microprocessor control system is the central intelligence unit of the roll-over wash system. It controls all devices according to the selected wash program.

Motor protection switches

The motor protection switches have an integrated fuse, which can be reinserted after failure.

NOTICE

The circuit diagram is located in door of the control cabinet.

3.7. Special equipment

Depending on the model, your roll-over wash system may have

- an additional fresh water supply
- an under-body-wash
- a rolling shutter door control system
- …

You can find a detailed description of all the above in Chapter 10 "Special equipment".

4. Commissioning/assembly/dismantling/conversion/disposal

4.1. Commissioning

This chapter describes all the stages which must be worked through in order to put the roll-over wash system into operation correctly.

Cleaning work

☞ Clean the floor of the building. Take particular care over the area around the floor rails.

☞ Clean the transmitters and receivers of all the light barriers.

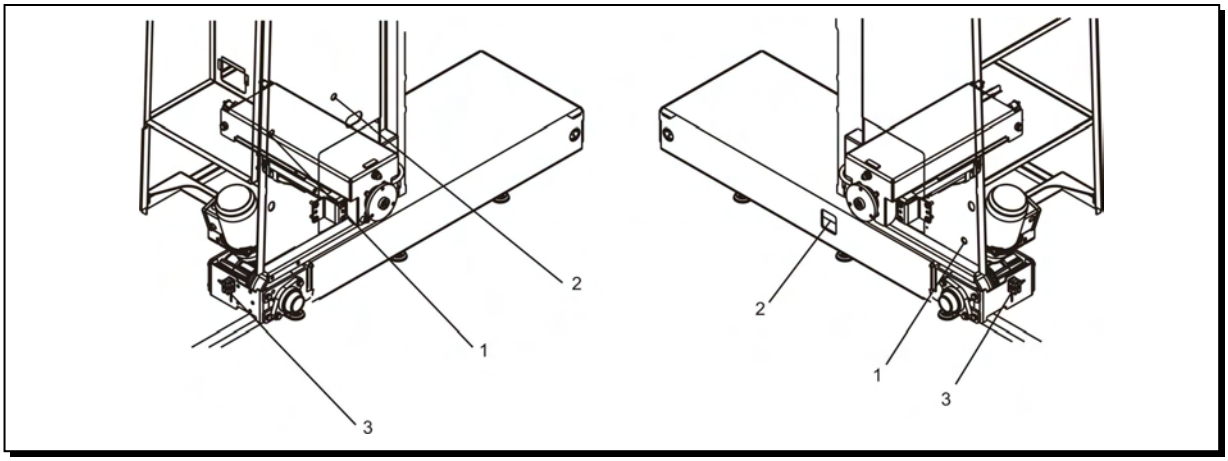


Fig. 4-1: Position of the light barriers for traffic lights and wheel washer

☞ Remove all obstacles, such as cleaning equipment, buckets, hoses, etc. from the building.

☞ Only in cold weather: remove any frozen areas from the entrance and exit areas of the building.

Switching on

☞ Open the air and water connections.

☞ Switch the system on at the main switch.

⇒ The roll-over wash system carries out a self-test which last about 10 seconds.

☞ Note the message displayed on the operating unit.

Cleaning agents

☞ Check the levels in the chemical storage containers.

☞ If necessary, fill up the containers with cleaning agent, pre-diluted as recommended by the supplier of the cleaning agents. If a chemical storage container has been emptied completely, all air must be bled out of the supply lead (see Chapter 6 "Operation and settings").

⚠ CAUTION

The wrong selection of cleaning agents may cause poor cleaning results and damages to the vehicle and the system.

The selection of the best suited cleaning agents depends among other things on the water quality and water hardness.

Discuss with your cleaning agent supplier which cleaning agents are best suited for your system.

⚠ DANGER

Highly inflammable and toxic cleaning agents may cause damage to machinery and injury to persons.

Such cleaning agents may not be used because of the risk for fire hazard and health.

⚠ DANGER

Caution should be exercised in handling all chemical compounds. Some car wash chemicals are somewhat caustic and should not be permitted to come in direct contact with bare skins or eyes.

☞ **Always refer to product MSDS Sheets for proper precautions.**

☞ **Whenever handling such chemicals wear proper protective rubber gloves, boots and a face shield.**

☞ After refilling containers, check the filters in the suction hoses to ensure they function correctly, and clean them if necessary.

☞ Carefully close the door of the fluid technical system cabinet and remove the socket wrench to prevent the door being opened without permission.

Safety devices

⚠ DANGER

A fault in the safety devices (emergency-off function, safety shut-down and safety switches) can cause serious accidents and/or damage to vehicles.

For this reason, all safety devices must be checked every day to ensure that they function correctly. If any safety device is faulty, please inform WashTec Service immediately. On no account may the roll-over wash system be put into operation.

We recommend to each operating company that the performed tests with the test result as well as name, date and signature of the testing person should be documented in written form.

Proceed with the following steps to check the safety devices:

Moving the wash gantry

The test result of a function test is always displayed on the operating unit. Therefore it is recommended to move the wash gantry close to the operating unit to easily read off the test result. Use the function keys as described in chapter 9.1.4. for moving the wash gantry.

Check emergency-off function

☞ Press the emergency-off button.

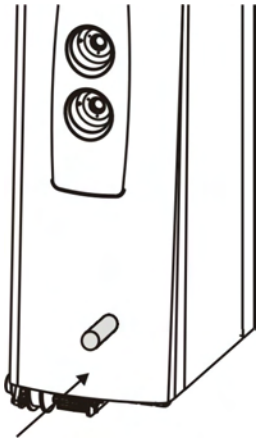
⇒ The display in the operating unit shows „Emergency Off“

☞ Release the emergency-off button.

☞ Acknowledge the message.

Checking the safety shutdown

If your roll-over wash system is equipped with additional safety shutdown features, these must be checked before the system is started up.



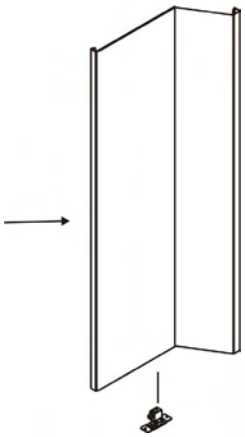
☞ Press strongly against one of the cabinet doors.

⇒ The display in the operating unit shows „Emergency stop actuated internally“.

⇒ The message remains in the display after releasing the door.

☞ Acknowledge the message.

☞ Repeat the above steps for the other door and for the covers on the rear side.



☞ Press frontal against the lateral splash guard.

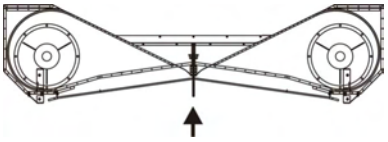
⇒ The display in the operating unit shows „Emergency stop actuated internally“.

⇒ The message remains in the display after releasing the splash guard.

☞ Acknowledge the message.

☞ Repeat the above steps for the splash guard on the other side.

Checking the safety ring switch



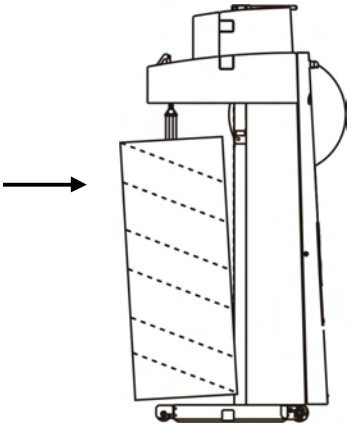
☞ Press the safety ring switch upwards.

⇒ The display in the operating unit shows „Safety ring“.

⇒ The message remains in the display after releasing the ring switch.

☞ Acknowledge the message.

Checking safety switch for side brushes



☞ Push one of the side brushes strongly backward.

⇒ The display in the operating unit shows „Safety strip actuated“.

⇒ The message remains in the display after releasing the side brush.

☞ Acknowledge the message.

☞ Repeat the above steps for the other side brush.

Checking the traffic lights

If your roll-over wash system is fitted with a set of traffic lights to help position vehicles, they must be tested before the system is started up, by covering the traffic-light light barriers. If they function correctly, the following symbols should appear on the traffic lights:

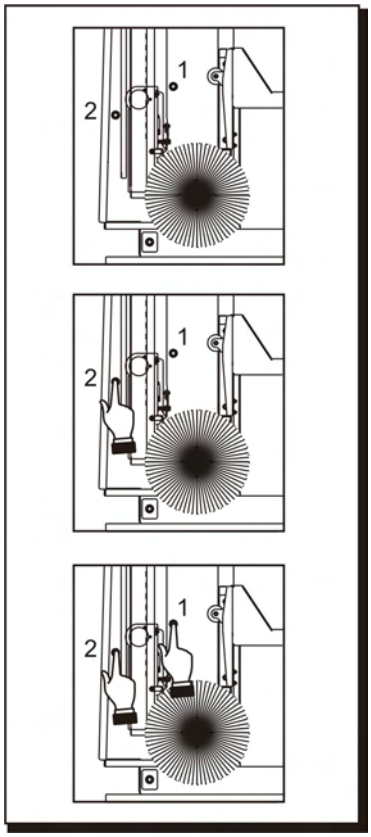


Fig. 4-2: Testing the traffic light

☞ Both light barriers free:

⇒ The traffic lights show "FORWARD" .

☞ Cover light barrier 1.

⇒ The traffic lights show "STOP".

☞ Cover light barriers 1 and 2.

⇒ The traffic lights show "REVERSE".

In the event of malfunctions, see Chapter 6 "Operation and settings".

The roll-over wash system is now ready for operation.

4.2. Dismantling/conversion/transport/ assembly

⚠ DANGER

We can accept no liability for damage caused by dismantling, transportation or reconstruction or by conversion work carried out on the roll-over wash system. This applies also for disposal of the roll-over wash system.

Dismantling, transport and reconstruction or conversion of the roll-over wash system calls for detailed specialist knowledge

We recommend you have this work carried out by WashTec Service.

4.3. Disposal

Disposal of the roll-over wash system

We recommend that you have the roll-over wash system dismantled for subsequent disposal/scrap by WashTec Service or by another company with suitable experience in your area.

You must comply with the applicable local waste disposal regulations and legislation when disposing of the system.

Disposing of brushes, coverings and waste water

You must observe the applicable local waste disposal regulations and legislation when disposing brushes, coverings and waste water.

5. Washing operation

This chapter contains important safety instructions for washing operation and describes all the stages which must be worked through when washing vehicles.

NOTICE

This information is intended for the wash system operator and for car wash customers. The car wash customer must be fully informed on instruction notices.

Instructions which are intended only for the wash system operator are marked separately.

5.1. Safety instructions

⚠ CAUTION

If the roll-over wash system is used for vehicles with certain features, this may result in damage to the vehicle.

- Vehicles which are not suitable for the dimensions of the roll-over wash system (see Chapter 11 "Technical specifications") may not be washed.
- New or re-sprayed vehicles on which the paintwork is not yet fully hardened must not be washed.
- Vehicles with special attachments or mounted elements (outside spare wheels, roof railing, taxi signs or similar) may only be washed after inspection and with the approval of the operator.
- Damaged vehicles may only be washed after inspection and with the approval of the operator.
- For convertibles or semi-covered vehicles, the instructions/requirements for the use of car washes provided in the vehicle manual must be observed.
- Vehicles which vary heavily from the standard version such as vehicles with a low or high ground clearance, may only be washed after inspection and with the approval of the operator.
- The roof brush has to be manually controlled for pick-ups, i.e. vehicles with an open loading area, and vehicles with unfavourable designed rear spoilers.

NOTICE

Information only for the operator

WashTec can accept no responsibility for damage to vehicles where one or more of the points listed above are applicable.

If these vehicles are washed irrespective of the above points, this must be done on the good judgement of the operator and will be his responsibility. The following points must be observed here in particular:

For wash systems which are operated in self-service mode, e.g. the operator or his personnel are not present during the wash cycle, it is highly recommended to install a video surveillance for inspecting every vehicle before the vehicle is cleaned.

Special attachments or mounted elements which cannot be removed must be overridden manually with the relevant control buttons on the operating unit (see Chapter 9 "Operating units").

For vehicles with wheel claddings and vehicles with low or high ground clearance, the wheel washer must be controlled manually (see Chapter 9 "Operating units").

For vehicles with a low ground clearance, there is a risk that the vehicle will get stuck if a non-recessed under-body wash or car shifting device is installed.

NOTICE

Information only for the operator

The operating units offer various possibilities for starting the wash program and controlling it manually (see Chapter 9 "Operating units").

5.2. Preparing the vehicle

In order to prevent damage to vehicles, the following preparations must be made before washing.

These preparations can be made either by the wash plant operator or the customer. The car wash customer must be provided with information about these preparatory steps on instruction notices.

- ☞ Remove aerials or push them in.
- ☞ Switch off radios if the vehicle is equipped with an automatic aerial.
- ☞ Fold in the mirrors if possible.
- ☞ Remove any extra mirrors.
- ☞ Check that additional lights or headlights are securely attached.
- ☞ Lock the vehicle before the wash cycle starts (including trunk or tailgate).
- ☞ Switch windshield wipers to their home position.
- ☞ Remove all loose parts, such as extra parts attached to windshield wipers or similar objects.
- ☞ Close the sliding roof or the roof (convertibles).

5.3. Car wash procedure

The car wash procedure depends on the selected start setting (see chapter 9.1.5. menu 36 Automatic start), on the setting of the entrance/exit doors (see chapter 9.1.5. menu 33 door functions) and whether the driver remains in the vehicle during the wash cycle or waits outside of the wash building.

Three typical car wash procedures are described below.

Operation mode 1

Automatic start is switched off, the entrance door is open and the driver waits outside of the wash building.

☞ Drive the vehicle forward into the wash system so that there is enough space on each side.

☞ Position the vehicle correctly
⇒ The traffic light shows “Stop”.

☞ Turn off the engine, put the car in PARK (for a standard car put the car in 1st gear) and apply the parking brake.

☞ Close the windows, leave the vehicle and lock all vehicle doors (including trunk or tailgate).

☞ Leave the car wash building.

☞ Select a wash program (by card or by input at the operating unit).
⇒ The wash program will be started automatically.
⇒ When the wash cycle is finished, the roll-over wash system returns to its home position.
⇒ The traffic light shows the drive-out direction.

☞ Enter the vehicle and drive the car out of the wash building.

Operation mode 2

Automatic start is switched off, the entrance door is closed and the driver waits outside of the wash building.

☞ Select a wash program (by card or by input at the operating unit).
⇒ The entrance door opens

☞ Drive the vehicle forward into the wash system so that there is enough space on each side.

☞ Position the vehicle correctly
⇒ the traffic light shows “Stop”.

☞ Turn off the engine, put the car in PARK (for a standard car put the car in 1st gear) and apply the parking brake.

☞ Close the windows, leave the vehicle and lock all vehicle doors (including trunk or tailgate).

☞ Leave the car wash building.

☞ Start the wash program with the button <<START>>.
⇒ The vehicle will be cleaned.
⇒ When the wash cycle is finished, the roll-over wash system returns to its home position.
⇒ The traffic light shows the drive-out direction.

☞ Enter vehicle and drive the car out of the wash building.

⚠ CAUTION

If problems occur or there is any danger, press the emergency-off button and inform the wash system operator.

Operation mode 3

Automatic start is switched on, the entrance door is closed and the driver remains in the vehicle during the wash cycle.

☞ Select a wash program (by card or by input at the operating unit).
⇒ The entrance door opens

☞ Close windows and doors and lock all doors from the inside.

☞ Drive the vehicle forward into the wash system so that there is enough space on each side.

☞ Position the vehicle correctly
⇒ the traffic light shows “Stop”.

☞ Turn off the engine, put the car in PARK (for a standard car put the car in 1st gear) and apply the parking brake.

☞ Remain seated in the vehicle.
⇒ The wash cycle starts.
⇒ The vehicle will now be washed.
⇒ When the wash cycle is finished, the roll-over wash system returns to its home position.
⇒ The traffic light shows the drive-out direction.

☞ Drive the vehicle out of the car wash building.

⚠ DANGER

Leaving the vehicle can cause serious accidents.

Inform the customer that he should never leave the car and that he should wait for instructions.

For wash systems which are operated in self-service mode, e.g. the operator or his personnel are not present during the wash cycle, it is highly recommended to install a video surveillance for controlling the wash area.

5.4. *Procedure for emergency stops and malfunctions*

Information only for the operator

☞ Ascertain the reason for the emergency-stop/ malfunction.

☞ Remedy the cause if possible.

No damage to the vehicle or the roll-over wash system

☞ Release the emergency-off button.

☞ Acknowledge the message.

☞ Press the button or <<OK>> if the wash cycle should be continued.
⇒ The wash cycle will be continued.

☞ Press the button <<Cancel>> if the wash cycle should be aborted.

☞ Press the button <<Home position>> and than <<OK>>
⇒ The system moves automatically in its home position.

☞ Start the wash program again.

Damage to vehicle

☞ Determine the damage and its cause.

☞ Make a note of the damage and its cause in a damage report. You can find an example in the appendix of these operating instructions. The damage report must be signed by the wash system operator and by the car wash customer.

☞ Check if the roll-over wash system can be moved in its home position without further damage to the vehicle.

☞ If this is not possible, inform WashTec Service. Otherwise proceed with the following steps.

☞ Release the emergency-off button.

☞ Acknowledge the message.

☞ Press the button << Cancel >>.

☞ Press the button <<Home position>> and than <<OK>>

⇒ The system moves automatically in its home position.

☞ Watch the procedure and press immediately the emergency-off button if the movement may cause further damage.

☞ Remove the vehicle from the roll-over wash system and initiate steps for legal settlement of damage claims.

☞ Inform WashTec Service.

Damage to the roll-over wash system

☞ Check if the roll-over wash system can be moved in its home position without further damage to the system.

☞ If this is not possible, inform WashTec Service. Otherwise proceed with the following steps.

☞ Acknowledge the message.

☞ Press the button << Cancel >>.

☞ Press the button <<Home position>> or <<OK>> at the operating unit.

⇒ The system moves automatically in its home position.

☞ Watch the procedure and press immediately the emergency-off button if the movement may cause further damage.

☞ Remove the vehicle from the roll-over wash system.

☞ Inform WashTec Service.

6. Settings and checking

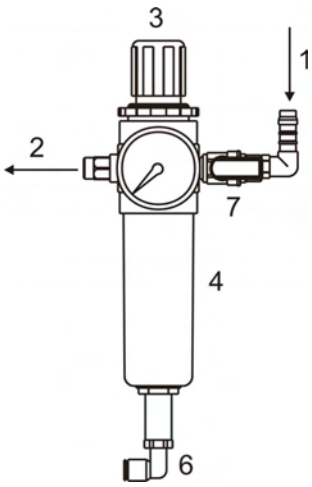
6.1. Adjusting the compressed air

Main pressure

The filter pressure regulator cleans the compressed air from destructive particles and regulates the main pressure.

The main pressure is used to move the pneumatic components into operational readiness, i.e. moving the wheel wash brush towards the vehicle.

Set-value main pressure: approx. 6 bar.



1 = Compressed air inlet
2 = Compressed air outlet
3 = Regulator knob
4 = Condensation container
6 = Drain valve
7 = Ball valve

Fig. 6-1: Filter pressure regulator

The compressed air is adjusted at the regulator knob (3).

☞ Release the regulator by pulling up the regulator knob.

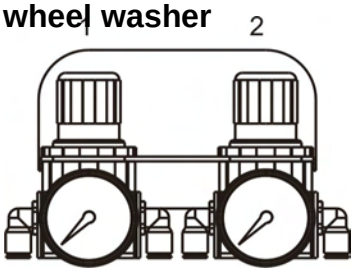
☞ Set the required pressure by turning the regulator knob to the right or left. The adjustment range is between 0.6 and 10 bar.

☞ Secure the regulator by pushing the regulator knob back down again.

The compressed air may contain condensation water which settles in the condensation container (4).

The draining is carried out automatically by the drain valve (6).

Air pressure wheel washer



A reduced air pressure is used to extend the wheel washer towards the wheel. This pressure is adjusted at the pressure regulator 1.

Pressure regulator for wheel washer:
Set value 3 bar

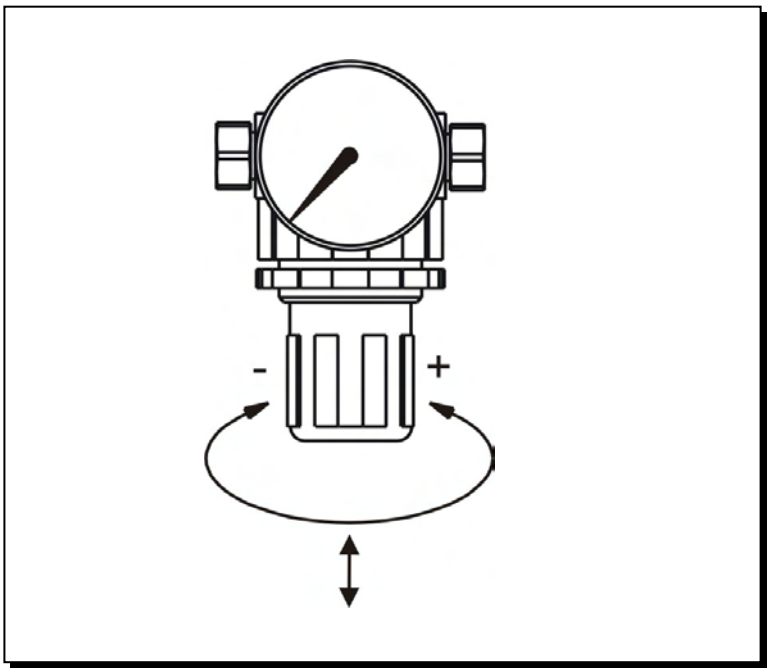


Fig. 6-2: Pressure regulator

The air pressure is adjusted at the regulator knob.

☞ Release the regulator by pulling the knob downwards.

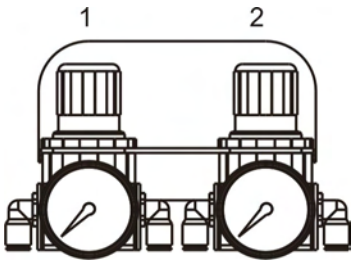
☞ Set the required pressure by turning the knob to the right or to the left.

☞ Secure the regulator by pushing the knob upwards.

Air pressure foam generator

The air pressure for the foam reactors can be read off at compressed air pressure gauges (2). The air pressure can be adjusted at the pressure regulator.

NOTICE



The optimum air pressure depends essentially from the chemical cleaning agents used in the system and has been optimally adjusted by WashTec Service during initial commissioning of the system.

A modification of the settings may cause a deterioration of the washing or preservation result.

It is recommended that any changes should only be done by WashTec Service or the cleaning agent supplier with appropriate experience.

NOTICE

Reading and setting of the air pressure is only possible when the spray system is switched on.

☞ Switch on the desired foam spray arch by using the menu 038 in the service program (see chapter 9.1.5 “Service program – program menus”).

☞ Read off the air pressure at the associated pressure gauge.

☞ Readjust the setting if necessary at the pressure regulator.

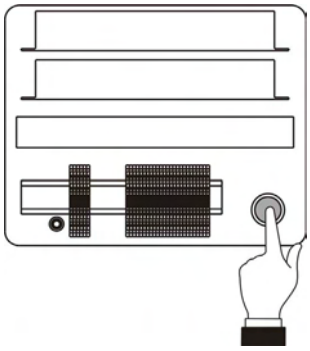
☞ Check the result

The best cleaning result is achieved with a liquid and fine blowy foam which flows down the vehicle.

☞ Switch off the foam spray arch by using the menu 038 in the service program.

6.2. Filling the dosing pumps

If a cleaning agent container has been emptied completely, the dosing pump has to be refilled with the cleaning agent.

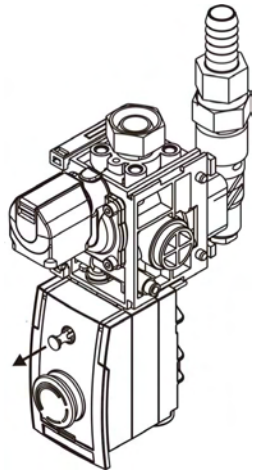


☞ Press the button at the peripheral control box.

⇒ The water pumps will be locked and the dosing pumps will be pulsed for max. 2 minutes.

☞ Pull out the plunger at the dosing pump.

⇒ The dosing pump will be filled. When the dosing pump is sufficiently filled the plunger starts pulsing strongly. You may now release the plunger.



☞ Press the button at the peripheral control box again.

⇒ The chemical loading procedure is finished.

☞ Press any button at the operation terminal.

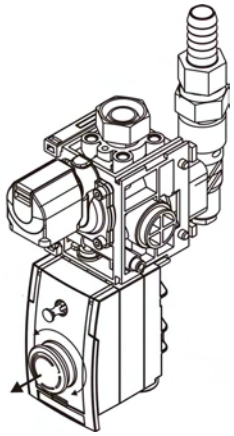
⇒ The water pumps will be unlocked.

NOTICE

Please observe that the system is only ready for operation after all of the above described steps have been completed.

6.3. Adjusting the dosing pump

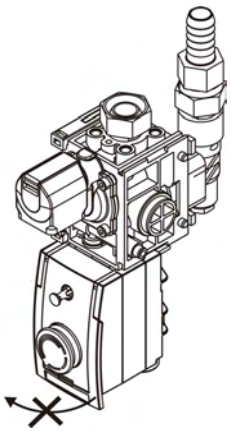
The volume of chemical agent required depends on the type of chemical agent. Please follow the detergent manufacturer's instructions.



☞ Release the click-stop by pulling out the adjuster and adjust to the delivery volume recommended by the supplier.

☞ Push in the adjuster afterwards.

⚠ CAUTION



If the lever at the dosing pump is activated water may leak from the pump.

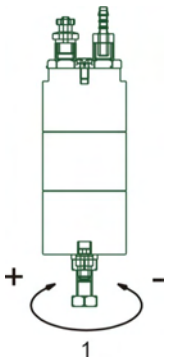
The lever should only be activated by WashTec service

6.4. Bleeding the suction lines at the rim cleaner pump

If a cleaning agent container has been emptied completely, all air must be bled out of the suction line after the container has been refilled.

☞ Switch on the dosing pump by using the menu 039 in the service program (see chapter 9.1.5 “Service program – program menus”).

In condition „rim cleaner pump on“ the pump will be clocked, i.e. with each stroke cleaning agent is drawn out of the container. Leave the pump switched on until the cleaning agent sprays out of the nozzle.



6.5. *Adjust rim cleaner pump*

The volume of chemical agent required depends on the type of chemical agent. Please follow the detergent manufacturer's instructions.

☞ Adjust the delivery volume at the adjusting screw (1) at the rim cleaner pump.

⚠ CAUTION

The use of improper cleaning agents (such as cleaners that contain hydrochloric acid, sulphuric acid, formic acid, hydrofluoric acid or oxalic acid) and/or incorrect mixing proportions as well as use of undiluted cleaning agents may cause damage to the system or the vehicles.

Use only products which are recommended for the automatic cleaning of vehicles.

Never use the cleaning agents undiluted. Dilute the cleaning agents as specified by the supplier.

For damages caused by using improper cleaning agents or incorrect mixing proportions no warranty claims will be accepted.

NOTICE

The maximum adjustable volume is 50 ml/stroke.

6.6. Reading and setting the water flowing pressure

The water flowing pressure can be read of at the pressure gauges (1) and can be adjusted at the pressure regulators (2).

NOTICE

The water flowing pressure has been optimally adjusted by WashTec Service during initial commissioning of the system.

A modification of the settings may cause a deterioration of the washing result.

A = Process water
B = Fresh water

1 = Pressure gauge
2 = Pressure regulator

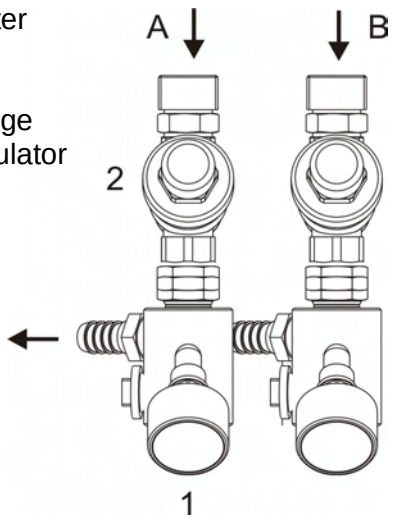


Fig. 6-3: Water flowing pressure

NOTICE

Reading and adjusting of the flowing pressure is only possible when the spray system is switched on.

Water flow pressure for fresh water supply at systems without foam system

☞ Switch on the post-rinsing spray arch by using the menu 038 in the service program (see chapter 9.1.5 “Service program – program menus”).

☞ Read off the flowing pressure at the pressure gauge.

☞ Readjust the setting if necessary at the pressure regulator.

Set value with spray system is switched on: 3 bar.

☞ Switch off the spray arch by using the menu 038 in the service program.

Water flow pressure for fresh water supply at systems with foam system

☞ Regulate the air pressure at one foam reactor (e.g. foam wax) to zero.

Important: Memorize setting.

The flowing pressure may be adulterated with air pressure on the foam reactor (higher flowing pressure).

☞ Switch on the spray arch which is associated to the selected foam reactor, e.g. foam wax by using the service program.

☞ Read off the flowing pressure for the fresh water supply at the pressure gauge.

☞ Readjust the setting if necessary at the pressure regulator.

Set value with spray system switched on: 3 bar

☞ Switch off the spray arch by using the menu 038 in the service program.

☞ Adjust the air pressure at the foam reactor to the previously set value.

Water flow pressure for process water supply

☞ Switch on the spray arches for pre-rinsing and brush wetting by using the menu 038 in the service program (see chapter 9.1.5 “Service program – program menus”).

☞ Read off the flowing pressure at the pressure gauge.

☞ Readjust the setting if necessary at the pressure regulator.

Set value with spray system is switched on: 2,5 bar.

☞ Switch off the spray arch by using the menu 038 in the service program.

7. Maintenance and care

7.1. Safety instructions

⚠ DANGER

Maintenance, service and care work carried out on the machine while it is switched on can cause serious accidents.

Always work through the following steps before starting maintenance, service and care work:

- ☞ **Move the roll-over wash system into an easily accessible position**
- ☞ **Switch off the electricity on the complete system**
- ☞ **Turn off the compressed air. Close the air supply at the ball valve located in the fluid-technical system cabinet and turn the input pressure regulator to 0 bars.**
- ☞ **Switch off water supply.**
- ☞ **Secure the system to prevent it from being switched on unintentionally.**

⚠ CAUTION

Objects such as tools, cleaning supplies, etc which remain on or in the system after completion of maintenance or care work may cause damage to the system or vehicles.

- ☞ **Makes sure that all objects are removed from the system after completion of maintenance or care work.**

7.2. Care

Regular care of the roll-over wash system contributes considerably to its smooth running and helps retain its value. The essential care programme includes:

- Lime-scale removal
- Cleaning of the system
- Cleaning of the floor
- Cleaning of the brushes
- Special treatment

The care intervals depend on the water quality and the degree of soiling.

⚠ DANGER

Caution should be exercised in handling all chemical compounds. Some cleaning agents are somewhat caustic and should not be permitted to come in direct contact with bare skins or eyes.

☞ **Always refer to product MSDS Sheets for proper precautions.**

☞ **Whenever handling such cleaning agents wear proper protective rubber gloves, anti-skid boots and a face shield.**

⚠ DANGER

Highly inflammable and toxic cleaning agents may cause damage to machinery and injury to persons.

Such cleaning agents may not be used because of the risk for fire hazard and health.

⚠ CAUTION

Cleaning with high pressure can cause damage to the roll-over wash system.

Do not use high pressure appliances for cleaning.

7.2.1. Lime-scale removal

Sooner or later, depending on the water quality, lime-scale deposits will build up on the system. These must be removed carefully.

☞ Only use products for lime-scale removal that are based on citric acid, amidosulphuric acid or phosphoric acid.

☞ Mix these with water in the proportions specified by the manufacturer.

☞ Use these products to remove the lime-scale deposits carefully from the system.

☞ Rinse the system down with plenty clear water.

⚠ CAUTION

Use of other products, such as cleaners that contain hydrochloric acid, sulphuric acid, formic acid, hydrofluoric acid or oxalic acid or incorrect mixing proportions, can cause corrosion damage and damage to tiles and the surface of the system.

For damages caused by using one of the cleaners stated above no warranty claims will be accepted.

When removing lime-scale, avoid bringing the products into contact with plastic components, belts, sensors and cables. The acidic mixture can cause damage to these elements.

Only for systems with a water recycling system

☞ After removing lime-scale, check the pH-value in the water recycling system. The pH-value must be between 7,0 and 8,0.

☞ Wash at least 30 vehicles with fresh water if the pH-value is below 7.

7.2.2. Cleaning of the system

☞ Clean the entire frame of the roll-over wash system.

☞ Clean the flat belts of the lifting system of roof brush and drier system.

Only use pH-neutral cleaning and treatment products for this purpose (see below) or the cleaning agent that is also used for cleaning vehicles in the prescribed concentration.

☞ Rinse the system down with plenty clear water.

⚠ CAUTION

The permissible pH-value for the cleaning and treatment products used for cleaning the frame must be between 5 and 8 and must not contain any solvent.

Any products with higher or lower values than these may fade colour and deteriorate material and will reduce the lifetime of the roll-over wash system.

7.2.3. Cleaning of the floor

⚠ DANGER

A slippery floor may cause severe accidents.

☞ **Clean the floor as necessary. Remove all remaining detergent carefully to reduce the slip hazard.**

7.2.4. Cleaning of the brushes

The following description applies to the cleaning of original WashTec brushes.

Water hardness

The water hardness has substantial influence on the type of pollution. If the water hardness is higher than 10 °dH (German hardness) lime deposit may be causing the pollution in the first place.

☞ Ask your water supply company for the water hardness.

The water hardness can be specified in hardness grade or by the content of calcium and magnesium. Furthermore the hardness grades are country specific.

The information and conversion table below should assist you in the definition:

Specification in hardness grades:

French hardness:	English hardness:
1 °dH = 1,78 °fH	1 °dH = 1,25 °eH
1 ° fH = 0,56 °dH	1 ° eH = 0,8 °dH

Specification in calcium and magnesium ions:

10 °dH = 1,8 mmol/l Ca + Mg

If calcium and magnesium are specified in mg/l use the conversion below:

1 mg/l calcium = 0,025 mmol/l calcium
1 mg/l magnesium = 0,043 mmol/l magnesium

⚠ CAUTION

Brushes may be damaged if they are cleaned too hot.

Brushes may also be damaged if cleaners are used which contain hydrochloric acid, sulphuric acid, formic acid, hydrofluoric acid or oxalic acid.

Use only cold or lukewarm water (max 30°) for cleaning the brushes.

Cleaning

Clean the brushes first with an acid cleaner (cleaner with a pH value < 7) if the water hardness is higher then 10 ° dH,. If the water hardness is lower you can start immediately with the alkaline cleaning (pH-value > 7).

Acid cleaning

☞ Spray the brushes with acid cleaner.

☞ Let the cleaner act on the brushes for approx. 10-15 min.

☞ Flush the cleaner out of the brushes with a strong jet and plenty of water.

Alkaline cleaning

☞ Spray the brushes with alkaline cleaner.

☞ Let the cleaner act on the brushes for approx. 10-15 min.

☞ Flush the cleaner out of the brushes with a strong jet and plenty of water.

Final work

☞ Check the pH-value in the tank system after cleaning the brushes when the system is equipped with a water recycling system. The pH-value must be between 7,0 and 8,0.

☞ Wash at least 30 vehicles with fresh water if the pH-value is below 7.

7.2.5. Special treatment

Rollover maintenance should be completed with the application of a protective coating.

Treatment can be carried out with commercially available treatment products that are water repellent and form an invisible protective film.

☞ Apply the treatment product to the frame of the roll-over wash system.

☞ Rub off any extra treatment product.

NOTICE

Exercise caution when using treatment products.

Always follow the instructions for use and safety instructions provided by the manufacturer.

Do not spray into the roof or side brushes.

7.3. Maintenance

Your roll-over wash system has been developed and manufactured so that a minimum of maintenance and care work is necessary.

In order to ensure that constantly good washing results and the maximum system operating time are always achieved, you should carry out the following work on a regular basis.

You can find a check-list for maintenance and care work in the appendix. Please use this list as a reminder when carrying out the necessary work.

7.3.1. Maintenance on demand

Proceed with the following steps if the spray nozzles are clogged (insufficient spray pattern):

☞ Remove and clean clogged or soiled nozzles. Exchange defect nozzles.

NOTICE

Inform WashTec Service if the spray pattern is not sufficient after cleaning or exchanging the nozzles.

7.3.2. Weekly Maintenance

Flat belt

☞ Check the belts for wear. If there is a high degree of wear, i.e. the belts are frayed or torn, please inform WashTec Service.

Energy chains

☞ Check all the energy chains including leads and cables (roof brush, dryer system, etc.) for wear and breakage. In the event of heavy wear or breakage, please inform WashTec Service.

System of hoses

☞ Check the system of hoses for loose connections and leaks. Tighten any loose connections. If you find any leaks, please inform WashTec Service.

Low-pressure water distribution

☞ Check the low-pressure water distribution for damage and leakages. Please inform WashTec Service in case of damages or leakages.

Clean the suction grids

☞ Clean the suction grids of the dryer blowers.

7.3.3. Monthly Maintenance

Cleaning the agent containers

- ☞ Rinse out the cleaning agent containers with water to remove any thickened chemicals.
- ☞ Fill each container with the correct cleaning agent.
- ☞ Bleed all air out of the supply hoses (see Chapter 6 "Operation and settings")

Checking the brushes

- ☞ Check the side and roof brushes and wheel washing brushes for wear. In the event of heavy wear, please inform WashTec Service.

Track and guide rollers

- ☞ Clean all the track and guide rollers.
- ☞ Check all drive, track and guide rollers for wear. In the event of heavy wear, please inform WashTec Service.

7.3.4. Maintenance every six months

Safety ring switch

☞ Check the safety ring switch for smooth operation.

☞ Spray the guide of the safety ring switch with the WashTec special-grease-spray.

Slide bearings

☞ Spray all slide bearings with the WashTec special-grease-spray.

NOTICE

Use the WashTec special-grease-spray with caution: do not spray into the wash brushes.

Drives

☞ Ensure that all the drives are properly sealed. You can recognise leaks by traces of oil on the housing. If you detect any leaks, please inform WashTec Service.

NOTICE

We recommend an inspection and maintenance by WashTec Service at six-monthly intervals.

7.3.5. Annual

We recommend an annual inspection of the high-pressure system and of the safety devices by WashTec Service.

NOTICE

Check whether your roll-over wash system is fitted with additional equipment.

If this is the case, please also carry out the required maintenance and care work for these appliances. You can find a detailed description in Chapter 10 "Special equipment" or in the separate operating instructions of the appliances.

8. Error messages

The error messages will be shown in the display of the operating unit according to the pattern shown below:

Module	Part name	Failure No.	Type of failure	Cause of failure
DB1	S15	025	No travel pulses	Pulse counter
DD1	B4	039	Short circuit transmitter	Light barrier front
CHK		061	Safety strip initiated	Emergency-off

The module abbreviation shows the module where the failure has been occurred, for example DB1 = roof brush. The table on page 8-3 shows the assignment of the abbreviations to the modules.

The part name indicates the part, e.g. S15 = switch no. 15.

The failure number is a consecutive number which is associated to the type of failure.

The type of failure is an indication for the failure, e.g. short circuit at the transmitter of a light barrier. The cause of failure indicates the failure source, e.g. light barrier front. The tables on page 8-5 to 8-9 show the different type of failures and causes of failures.

Modules, type of failure and cause of failure are combined by the controller and displayed on the operating unit.

Example:

Module	Part name	Failure No.	Type of failure	Cause of failure
DB1	S14	002	Stop position not discon-nected	Upper limit switch
DD1	S19	002	Stop position not discon-nected	Upper limit switch

Procedure at error messages

☞ Read off the failure message on the operating unit and make notice of the message.

☞ Check, if you can remedy the failure on your own.

☞ Switch the roll-over wash system off (see safety instructions in chapter 7 „Maintenance and care“) and remedy the cause of the failure.

☞ Inform WashTec Service if you cannot remedy the failure on your own or if the failure re-occurs.

Table of modules – part 1

Abbreviation	Module
DB1	Roof brush 1
SB1	Side brush 1
SB2	Side brush 2
RAW	Wheel wash brush
DD1	Roof nozzle 1
UBW	Under-body wash
Y1	Pre-rinsing
C2	Brush wetting
C3	Foam CVW
C4	Wax
C5	Post-rinsing / CTH
C6	Special chemistry with foam
C7	Special chemistry without foam
Y9	Hot water
Y10	Cold water
Y50	Chemical pre-wash bumper
Y51	Chemical pre-wash lower side
Y52	Chemical pre-wash roof front
Y53	Chemical pre-wash roof rear
Y25	High-pressure roof
Y27	Rim cleaner
Y54	Chemical pre-wash upper side
Y37	High-pressure lower side
Y38	Swivel pipes
Y44	High-pressure upper side
Y13	Osmosis
Y43	High-pressure under-body wash
Y55	Insect remover bumper
Y56	Insect remover side
DOP	Dosing pumps
PMP	Water pumps
ANL	System
M 1	Machine 1
M 2	Machine 2
M 3	Machine 3

Table of modules – part 2

Abbreviation	Module
CHK	Check, monitoring
FUP	Frequency converter gantry
FUH	Frequency converter lifting
FS1	Frequency converter side brush 1
FS2	Frequency converter side brush 2
WAB	Vehicle moving device
EFT	Entrance door
AFT	Exit door
TTO	Separation door
KLG	Card reader unit
LED	LED display
PVS	Peripheral distributor cabinet
RPD	Real Power Device, Effective power measurement device
SER	Serial interfaces
BED	Operating unit, parallel input
KFZ	Vehicle position
LS	Light barrier module
TST	Test
SOF	Special functions

Type of failure and cause of failure – Part 1

No.	Type of failure	Cause of failure
001	Cable or electronics	Limit switch, top
002	End position keeps touched	Limit switch, top
003	End position left by itself	Limit switch, top
004	End position not reached	Limit switch, top
005	Cable or electronics	Limit switch, bottom
006	End position keeps touched	Limit switch, bottom
007	End position left by itself	Limit switch, bottom
008	End position not reached	Limit switch, bottom
009	Cable or electronics	Limit switch, inside
010	End position keeps touched	Limit switch, inside
011	End position left by itself	Limit switch, inside
012	End position not reached	Limit switch, inside
013	Cable or electronics	Limit switch, outside
014	End position keeps touched	Limit switch, outside
015	End position left by itself	Limit switch, outside
016	End position not reached	Limit switch, outside
017	Cable or electronics	Limit switch, end of bay
018	End position keeps touched	Limit switch, end of bay
019	End position left by itself	Limit switch, end of bay
020	End position not reached	Limit switch, end of bay
021	Cable or electronics	Limit switch, begin of bay
022	End position keeps touched	Limit switch, begin of bay
023	End position left by itself	Limit switch, begin of bay
024	End position not reached	Limit switch, begin of bay
025	No position pulses	Pulse counter
026	Cable or electronics	Pulse counter
027	Actuated	Personnel protection
028	Cable or electronics	Personnel protection
029	Actuated	Safety switch, brush
030	Cable or electronics	Safety switch, brush
031	Actuated	Belt monitor
032	Cable or electronics	Belt monitor
033	Actuated	Anti collision switch
034	Cable or electronics	Anti collision switch
035	Actuated	Safety switch
036	Cable or electronics	Safety switch
037	Actuated	Safety device
038	Cable or electronics	Safety device

Type of failure and cause of failure – Part 2

No.	Type of failure	Cause of failure
039	Short-circuit, transmitter	Light barrier, front
040	Wire break, transmitter	Light barrier, front
041	Short-circuit, receiver	Light barrier, front
042	Wire break, receiver	Light barrier, front
043	Power limit reached	Light barrier, front
044	Short-circuit, transmitter	Light barrier, center
045	Wire break, transmitter	Light barrier, center
046	Short-circuit, receiver	Light barrier, center
047	Wire break, receiver	Light barrier, center
048	Power limit reached	Light barrier, center
049	Short-circuit, transmitter	Light barrier, rear
050	Wire break, transmitter	Light barrier, rear
051	Short-circuit, receiver	Light barrier, rear
052	Wire break, receiver	Light barrier, rear
053	Power limit reached	Light barrier, rear
054	Short-circuit, transmitter	Light barrier
055	Wire break, transmitter	Light barrier
056	Short-circuit, receiver	Light barrier
057	Wire break, receiver	Light barrier
058	Power limit reached	Light barrier
059	Actuated	Emergency cut off
060	Actuated internally	Emergency cut off
061	Safety strip activated	Emergency cut off
062	No voltage	X11-X13 (FC and inputs)
063	No voltage	X2, X3 (24VDC outputs)
064	No voltage	X5, X6 (24VDC outputs)
065	No voltage	X7 (24VDC outputs)
066	No voltage	Px, control voltage
067	Fuse tripped	Motor protection, rotation
068	Fuse tripped	Motor protection, feed
069	Fuse tripped	Motor protection, blower
070	Cable or electronics	Power measurement
071	Power limit reached	Power measurement
072	Short-circuit, overload	Power measurement
073	No measured value	Power measurement
074	Tank empty	Shampoo
075	Tank empty	Drying aid
076	Tank empty	Wax

Type of failure and cause of failure – Part 3

No.	Type of failure	Cause of failure
077	Tank empty	Foam
078	Tank empty	Special chemical 1
079	Tank empty	Special chemical 2
080	Dry running protection	System
081	Dry running protection	Fresh water pump
082	Dry running protection	Recycled water pump
083	Dry running protection	High pressure pump
084	Dry running protection	Osmosis pump
085	Frost protection activated	Plant
086	Fuse tripped	Pumps
087	Fuse tripped	
088	System switched on	
089	Factory settings loaded	Parameter
090	Data error: copy loaded	Parameter
091	Emergency copy loaded	Parameter
092	Config. update loaded	
093	Counter deleted	
094	Data exchange with PC	
095	Cannot initialize SMC	
096	Data backup deviation	Parameter
097	Data backup Parameter	
098	Read/write error SMC	
099	Hardware configuration error	
100	Communication interrupted	
101	Card memory full	
102	Remaining value too low	
103	Card invalid	
104	Power limit reached	Frequency converter
105	Short-circuit, overload	Output, mains for FC
106	Short-circuit, overload	Output, lift motor brake
107	Short-circuit, overload	Output, forwards rotation
108	Short-circuit, overload	Output, backwards rotation
109	Short-circuit, overload	Output, feed in
110	Short-circuit, overload	Output, feed out

Type of failure and cause of failure – Part 4

No.	Type of failure	Cause of failure
111	Short-circuit, overload	Output, fix brushes
112	Short-circuit, overload	Output, lift brushes
113	Short-circuit, overload	Output, FC at lift motor
114	Short-circuit, overload	Output, brush watering
115	Short-circuit, overload	Output, high-pressure valve
116	Short-circuit, overload	Output, blower 1
117	Short-circuit, overload	Output, blower 2
118	Short-circuit, overload	Output, fill boiler
119	Short-circuit, overload	Output, boiler heating
120	Short-circuit, overload	Output, drain fresh water
121	Short-circuit, overload	Output, drain recycled water
122	Short-circuit, overload	Output, drain boiler
123	No portal movement for 1 min.	
124	Both limit switches actuated	
125	No voltage/internal fault	Light barrier
126	Factory settings loaded	Counter
127	Data error: copy loaded	Counter
128	Emergency copy loaded	Counter
129	Data backup deviation	Counter
130	Data backup	Counter
131	Factory settings loaded	Program sequence table
132	Data error: copy loaded	Program sequence table
133	Emergency copy loaded	Program sequence table
134	Data backup deviation	Program sequence table
135	Data backup	Program sequence table
136	Card Intake/outlet faulty	
137	Card Locked	
138	Card Wrong station number	
139	Card Wrong price zone	
140	Card Expired	
141	Card R/W error	
142	Card Not inserted	
143	Service interval elapsed	
144	Data exchange with PC	SMS parameters changed

Type of failure and cause of failure – Part 5

No.	Type of failure	Cause of failure
145	Short-circuit, overload	Limit switch, clock cycle
146	System ready for operation	
147	Actuated unexpectedly	Limit switch, top
148	Actuated unexpectedly	Limit switch, hall begin
149	Switched on	Service program
150	Program invalid	
151	Cable or electronics	Limit switch, initial position
152	End position keeps touched	Limit switch, initial position
153	End position left by itself	Limit switch, initial position
154	End position not reached	Limit switch, initial position
155	Fuse tripped	Fresh water pump
156	Fuse tripped	Recycled water pump
157	Fuse tripped	High-pressure pump
158	Fuse tripped	Osmosis pump
159	Completed	Self test
160	Tank empty	Extra treatment 3
161	Report counters	
162	File not existing	Language
163	Slowing down to large	Lift motor
164	No type support	SMC
165	Data back-up	Program
166	actuated	Light barrier
167	Code not valid	WRAS system
168	Factory settings loaded	WRAS system
169	Data error copy loaded	WRAS system

9. Operating units

The roll-over wash system can be operated, i.e. starting the wash programs and making adjustments, with various different operating units.

The roll-over wash system is always equipped with the operating terminal CP1. Wash programs can be started from the operating terminal by pressing a program button or by entering a code. The optional card reader may be used to start wash programs with transponder cards. Both units are described in this chapter.

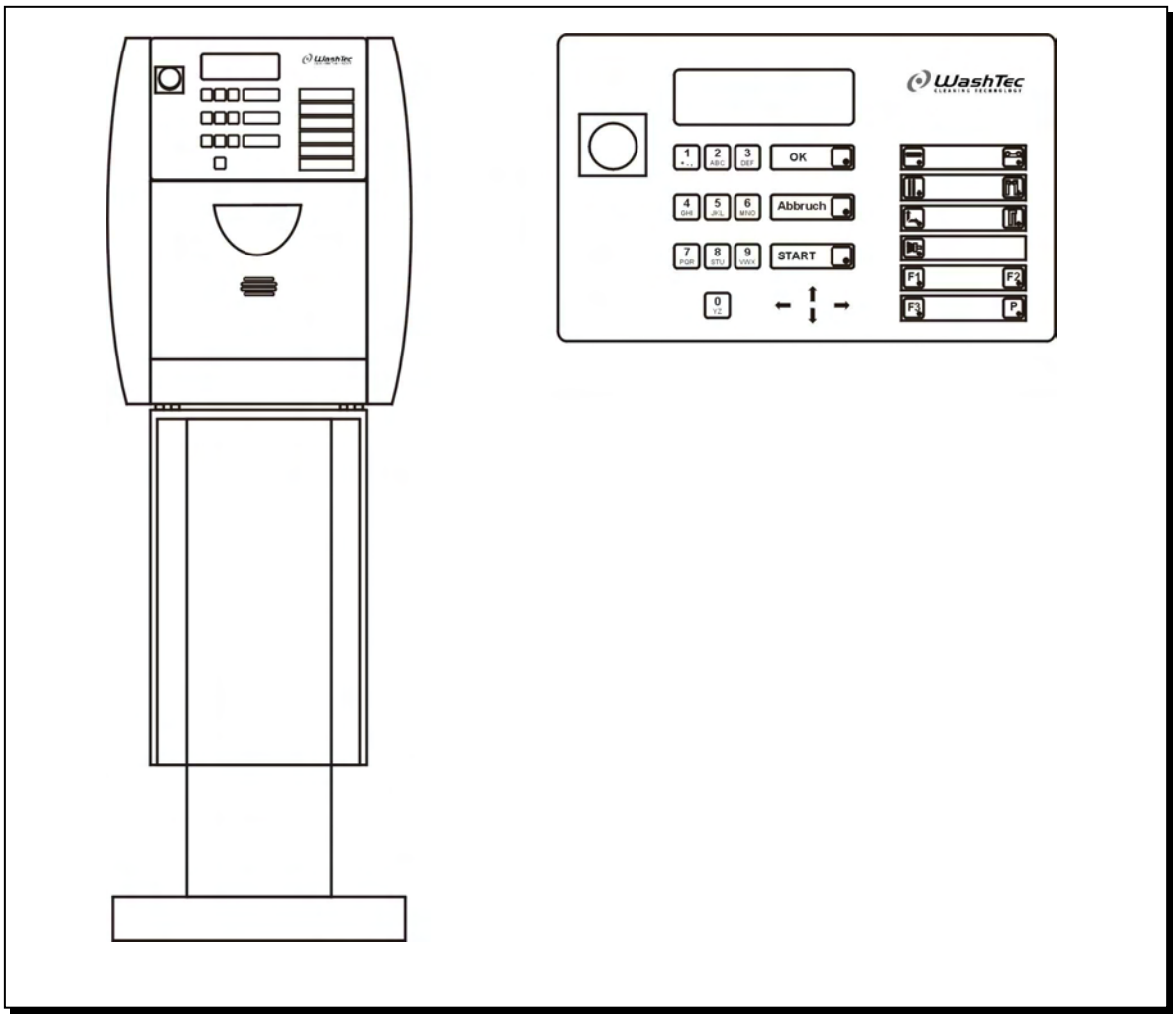


Fig. 9.1: Operating terminal CP1 with and without card reader

Instead of the optional card reader other card readers may be installed from which wash programs can be started with punched-cards, magnetical-cards or transponder-cards. These card readers are described in separate operating instructions.

NOTICE

Important information for systems with other card readers!

Several functions such as the start of wash programs over the key pad or the manual operation of machine components over the function keys can be executed from the operating terminal CP1 as well as from the card readers.

It is also possible that certain functions may not be executed at all from the card reader.

It is therefore recommended, to execute those functions only from the operating terminal CP1.

Check which type of operating unit is used in your system and turn to the relevant section or to the individual operating instructions to continue.

Operating terminal CP1..... 9-3
Operating terminal CP1 with card reader..... 9-79

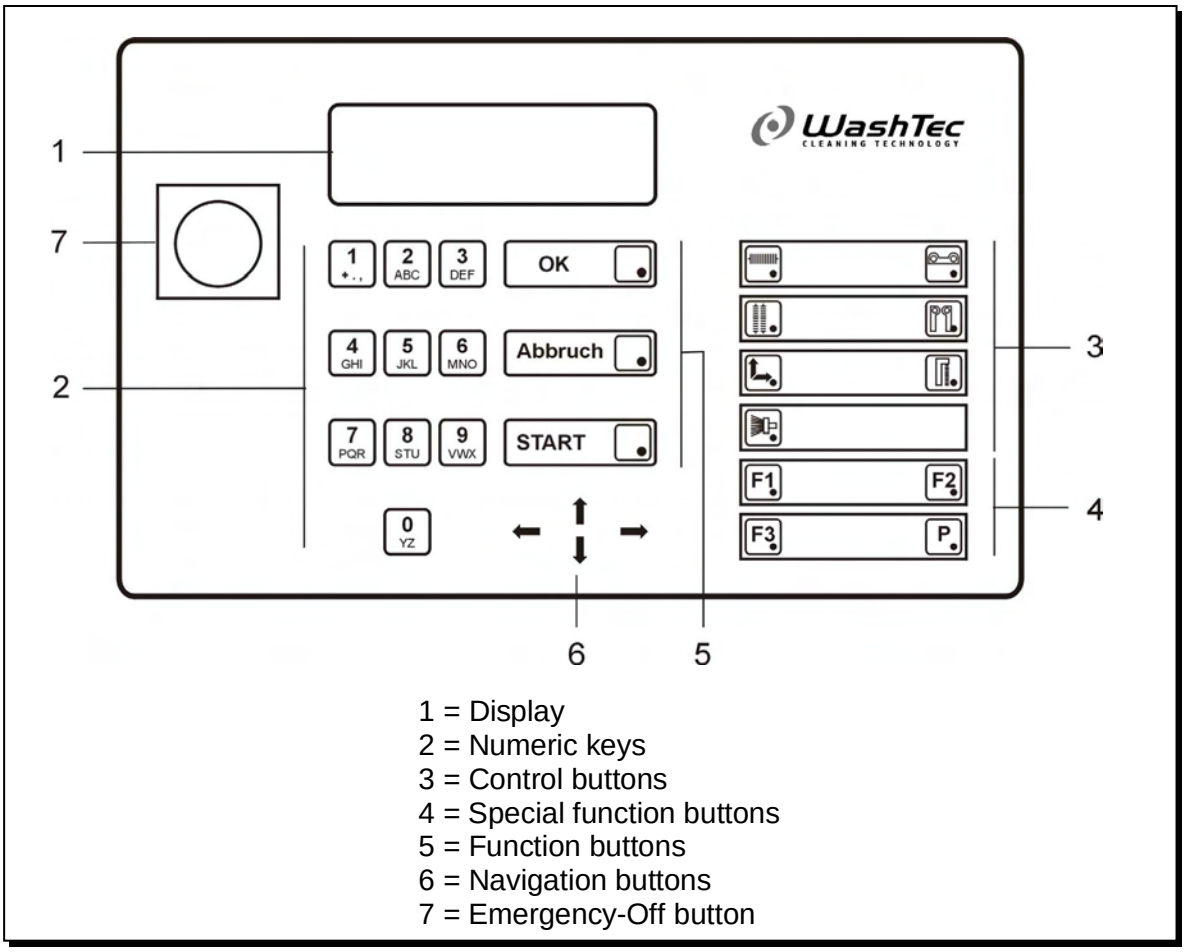
9.1. Operating terminal CP1

9.1.1. Overview

The operating terminal is used to control the wash system. It is installed in a plastic housing which can be wall-mounted or rack-mounted.

This chapter contains the following information:

Starting up the operating terminal..... 9-4
Starting wash programs..... 9-4
Manual operation with control buttons..... 9-7
Service programs..... 9-10



1 = Display
2 = Numeric keys
3 = Control buttons
4 = Special function buttons
5 = Function buttons
6 = Navigation buttons
7 = Emergency-Off button

Fig. 9-2: Operating terminal - front view

9.1.2. Starting up the operating terminal

The operating terminal is started automatically when the roll-over wash system is switched on at the main switch.

Depending on the operation mode, the display may show the following messages:

Drive in vehicle

or

Select program *or* **Please insert card**

9.1.3. Starting wash programs



Wash programs may be started by entering a program number or a program code (code operation mode).

In Code operation mode the customer receives at purchase a ticket with an access code. The wash procedure is started by entering the access code at the operating terminal.

NOTICE

Please note that in code operation mode the program selection has to switched-off (see menu 0361 in chapter 9.1.5). Otherwise the operating terminal takes the data entry as a program number.

The further steps depend on the operation mode and the position of the vehicle.

Operation mode 1

The driver drives into the wash building, positions the vehicle, leaves the vehicle, starts the wash program and waits outside the building.

Procedure

☞ Select the desired wash program on the key-pad or enter the code.

☞ Acknowledge the input with the button <<OK>> or press the button <<Cancel>> if you would like to change the input.

⇒ The wash program starts. The display shows:

Program x running

Operation mode 2

The driver drives in front of the wash building, selects a wash program, drives the vehicle into the building, leaves the vehicle, starts the wash program and waits outside the building.

Procedure

☞ Select the desired wash program on the key-pad or enter the code.

☞ Acknowledge the input with the button <<OK>> or press the button << Cancel >> if you would like to change the input.

☞ Drive the vehicle into the building.

☞ Start the wash program with button <<Start>>.

⇒ The wash program starts. The display shows:

Program x running

Operation mode 3

The driver drives in front of the wash building, selects a wash program, drives the vehicle into the building, remains seated and the wash program starts automatically (Automatic start on).

Procedure

☞ Select the desired wash program on the key-pad or enter the code.

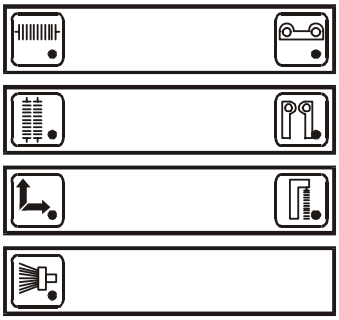
☞ Acknowledge the input with the button <<OK>> or press the button << Cancel >> if you would like to change the input.

☞ Drive the vehicle into the building.

⇒ The wash program starts. The display shows:

Program x running

9.1.4. Manual operation with control buttons



The control buttons can be used for manual operation of individual machine elements, such as the roof brush, side brushes, etc. or of the complete wash gantry.

The motion is activated by pressing the button. The motion remains active as long as the button is pressed.



In control mode, i.e. no wash program is running, the moving direction of the machine modules can be determined by the navigation buttons.

☞ Select the desired machine element by using the control buttons.

⇒ The LED in the lower right corner is illuminated.

☞ Select the desired moving direction by using the navigation buttons.

⇒ The element will be moved as long as the navigation button remains pressed or until the home position is reached.

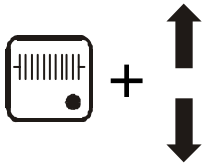
NOTICE

Manual operation can be deactivated to avoid misuse (see chapter 9.1.5 „Service programs – menu 0360“).



Push-button <<Roof brush>>

Wash mode: Roof brush up. The roof brush moves back downwards after releasing the button.

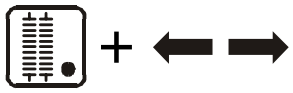


Control mode: Roof brush up or down. The roof brush remains in its actual position after releasing the button.



Push-button <<Side brushes>>

Wash mode: Side brushes apart. The side brushes moves back inwards after releasing the button.

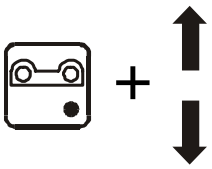


Control mode: Side brushes apart or together. The side brushes remain in their actual position after releasing the button.



Push-button <<Roof nozzle>>

Wash mode: Roof nozzle up. The roof nozzle moves back downwards after releasing the button.



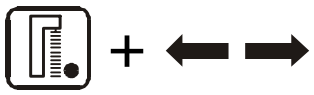
Control mode: Roof nozzle up or down. The roof nozzle remains in its actual position after releasing the button.



Push-button <<Wheel wash brushes>>

Wash mode: The wheel wash brushes are switched off and remain switched off until the end of the wash program.

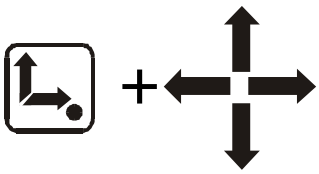
Push-button <<Wash gantry>>



Wash mode: Without function.

Control mode: Wash gantry forward or backward. The wash gantry remains in its position after releasing the button.

Push-button <<Home position>>



Wash mode: Without function.

Control mode: Roof brush and roof nozzle move upwards, side brushes move apart. The wash gantry moves in its home position.

For safety reasons, one of the four navigation buttons or the button <<OK>> has to be pressed in addition to the button <<Home position>>.

9.1.5. Service programs

Service programs allow the manager or owner of the wash tunnel to modify designated settings of the system.

Access and Termination

To access and terminate service programs follow the sequence as shown below.

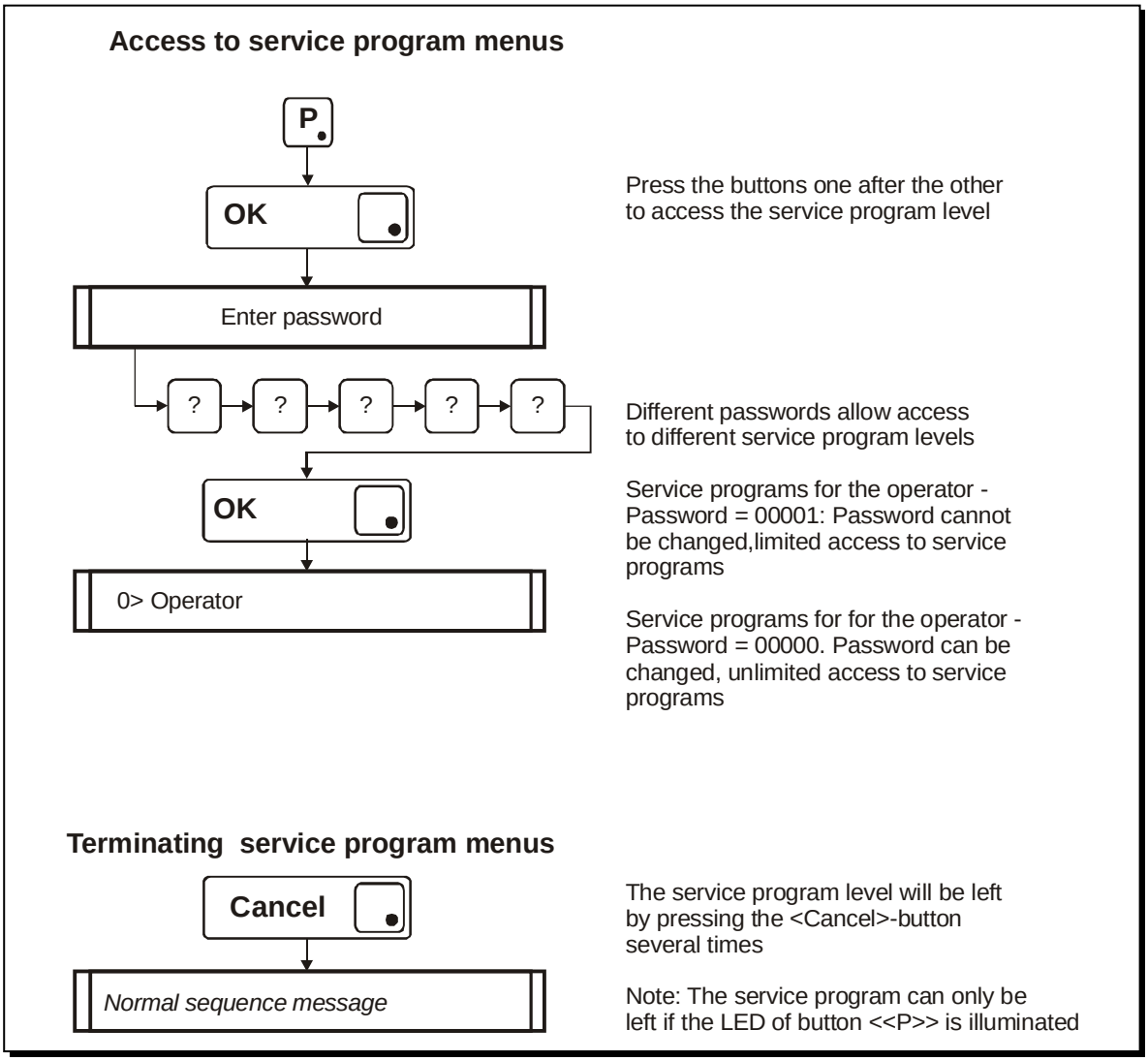


Fig. 9-3: Access to and termination of service programs

NOTICE

Service programs may not be accessed while wash programs are executed.

About using service programs

Service programs are structured in several levels. In each level different operations can be performed.

NOTICE

There is a button called <<Cancel>> on the front panel. The meaning of this button is Cancel or Abort.

Calling menu items

The menu items within a service program can be called by using the navigation buttons or by entering the menu item number directly.

The menu items can be found from page 9-12.

The illustration below shows the direct call of a menu item. On the next page you will learn how the menu item is called with the navigation buttons.

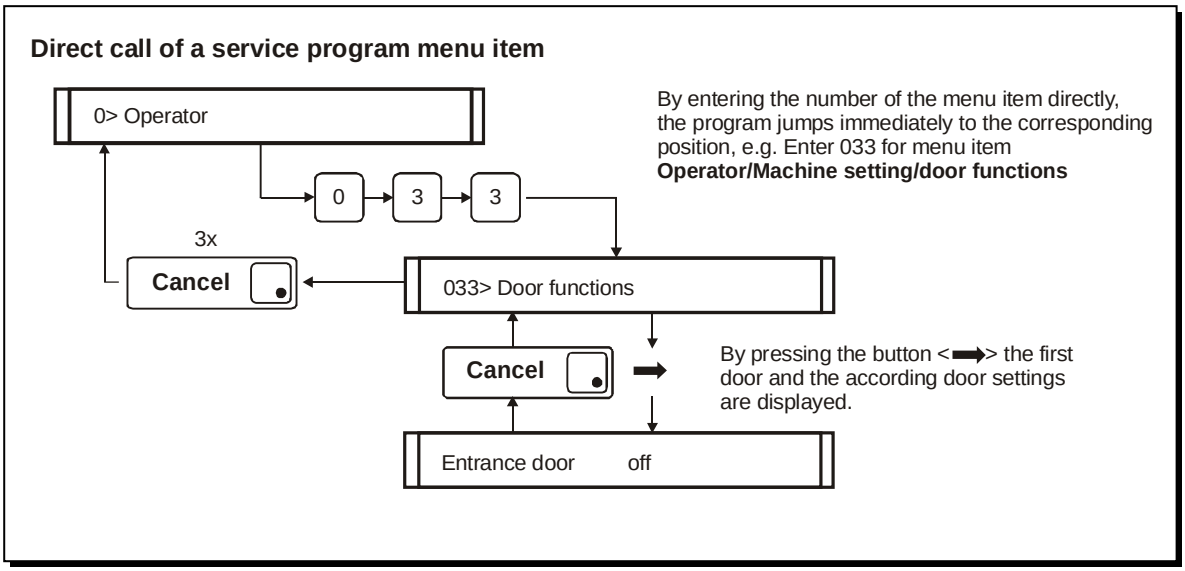


Fig. 9-4: Direct call

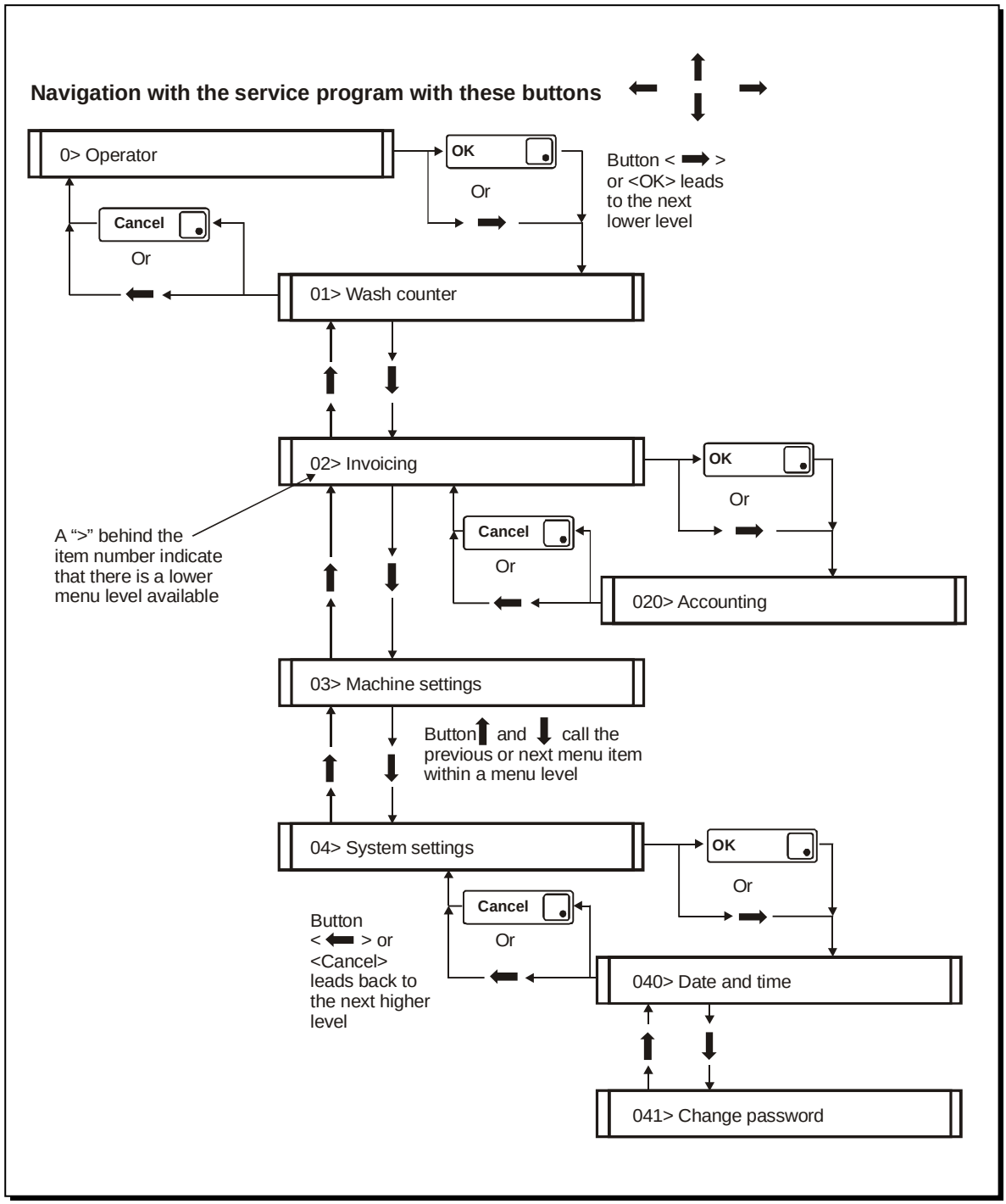


Fig. 9-5: Navigation with navigation buttons

Modification of values/ parameters

Values/parameters can be modified within a menu item.

The modification follows the sequence as shown below:

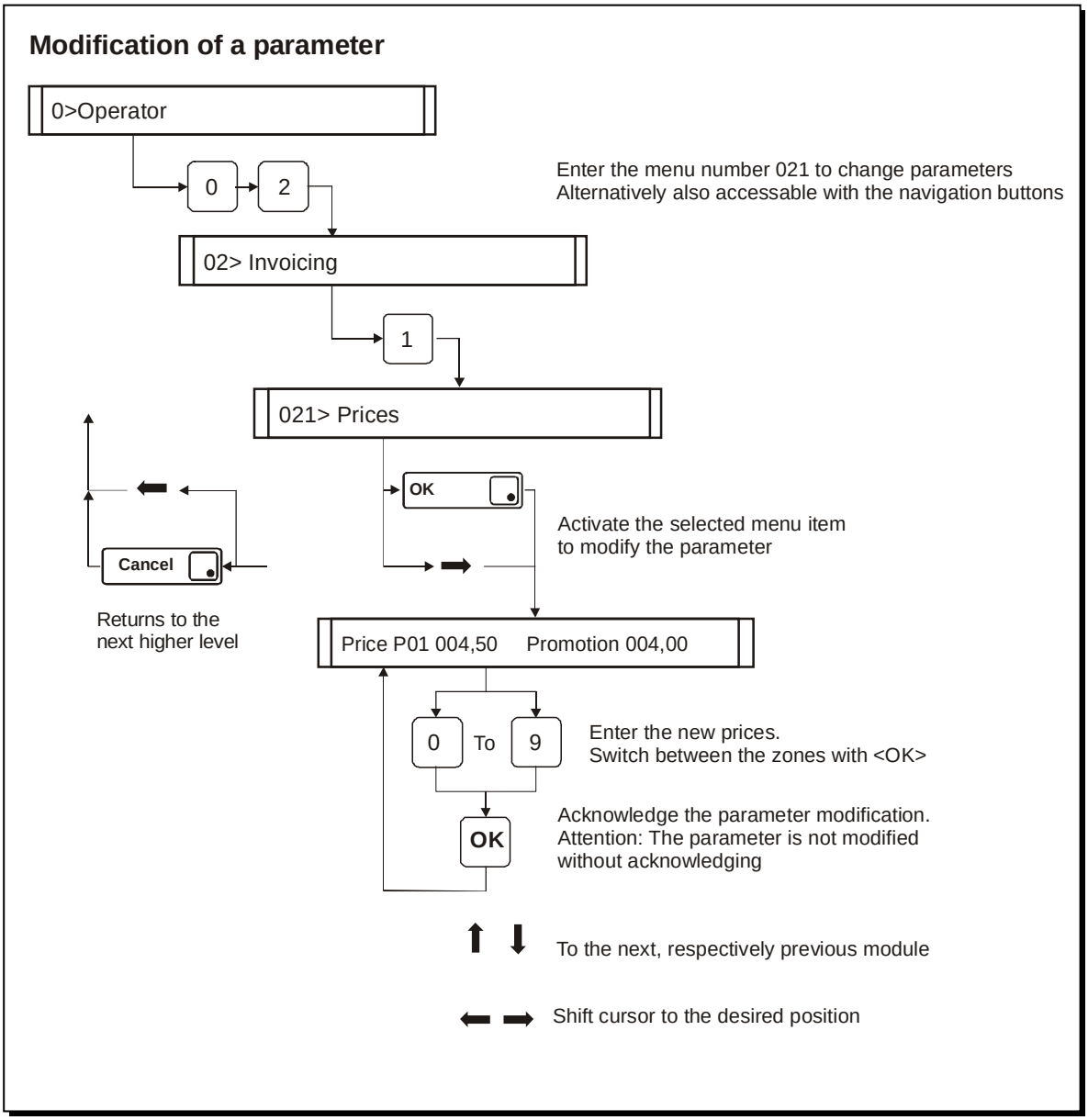


Fig. 9-6: Modification of parameters/values

Service program menus

The menu items of a service program are released by a password when accessing the service program. The following listing shows all menu items which may be called from the operator or the owner of the roll-over wash system.

A Menu item can be called directly by using the number code.

Menu 01> Wash counter

The menu „Wash counter“ allows to display different counters. The table below shows on a glance all menus and sub-menus available in this menu item.

01> Wash counter
010 Total counter Total: XXXXXX Shift: YYYYYY Failed: ZZZZZZ
011> Lifetime **0110 Cash (Manual entry)** Program 1 XXXXXX Promotion YYYYYY
0111 Non-cash Program 1 XXXXXX Promotion YYYYYY
0112 Servicing Program 1 XXXXXX Promotion YYYYYY
012> Day **0120 Cash (Manual entry)** Program 1 XXXXXX Promotion YYYYYY
0121 Non-cash Program 1 XXXXXX Promotion YYYYYY
0122 Servicing Program 1 XXXXXX Promotion YYYYYY
0124 Clear day counter

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu

010 Total counter

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 010 Total counter

☞ Press the button Taste <<➡>> to display the total counter.

⇒ The display shows

Total: XXXXXX Shift: YYYYYY Failed: ZZZZZZ

Total = All wash cycles since commissioning
Shift = All wash cycles since the daily counter has been cleared
Failed = All wash cycles which have been aborted since commissioning

☞ Press the button <<Cancel>>.

⇒ The display shows:

010 Total counter

Menu 011 Lifetime

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu

0110 Cash (Manual entry)

The menu „Lifetime“ provides three sub-menus

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

- 0110 Cash (Manual entry)
- 0111 Non-cash
- 0112 Service

The menu „Cash“ shows the total amount of wash cycles which have been started on the operating terminal by entering a wash program. The menu “Non-cash” shows the total amount of wash cycles which have been started otherwise, e.g. with a wash card at the card reader. The menu „Service“ shows the total amount of wash cycles which have been started from WashTec Service in service mode.

☞ Press the button <<➡>> to display the counter of the selected menu.

⇒ The display shows:

Program Z XXXXXX Promotion YYYYYY

Z = Program number (Start with program1)
XXX = All wash cycles of program Z during regular times
YYY = All wash cycles of program Z during promotion times

☞ Select with the buttons <<⬇>> and <<⬆>> the counters of other programs or press the button <<Cancel>> to return to the start menu.

⇒ The display shows for example:

0110 Cash (Manual entry)

☞ Select with the <<⬇>> und <<⬆>> another sub-menu or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

011 Lifetime

Menu 012 Day

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu

0110 Cash (Manual entry)

The menu „Day“ provides four sub-menus

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

- 0120 Cash (Manual entry)
- 0121 Non-cash
- 0122 Service
- 0124 Clear day counter

The menu „Cash“ shows the total amount of wash cycles which have been started on the operating terminal by entering a wash program during this day. The menu “Non-cash” shows the total amount of wash cycles which have been started otherwise during this day, e.g. with a wash card at the card reader. The menu „Service“ shows the total amount of wash cycles which have been started from WashTec Service in service mode during this day.

For the first three menus:

☞ Press the button <<➡>> to display the counter of the selected menu.

⇒ The display shows:

Program Z XXXXXX Promotion YYYYYY

Z = Program number (Start with program1)
XXX = All wash cycles of program Z at regular times
YYY = All wash cycles of program Z at promotion times

☞ Select with the buttons <<⬇>> and <<⬆>> the counters of other programs or press the button <<Cancel>> to return to the start menu.

⇒ The display shows for example:

0120 Cash (Manual entry)

☞ Select with the <<⬇>> und <<⬆>> another sub-menu or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

012 Day

For the menu „Clear day counter“

The display shows:

0124 Clear day counter

☞ Press the button <<OK>> to clear the daily counter.

⇒ The display shows:

Day counters cleared

☞ Press twice the button <<Cancel>> to return to the start menu.

⇒ The display shows:

012 Day

Menu 02 Invoicing

The menu „Invoicing“ allows the display of the daily settlement and the display and modification of prices, promotions as well as currencies and taxes.

The table below shows on a glance all menus and sub-menus available in this menu item.

02> Invoicing
020> Accounting **0200> Day** Turnover: Cash 123456,00 EUR
021> Prices Price P01 XXXXXX Promotion YYYYYY
022> Promotion times (zone 2) 0 Mo Time1 00:00-00:00 Time2 00:00-00:00
023> Currency and tax Currency: EUR Tax: 16,00 %
024> Check WRAS Code Enter Code xxxxx

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

020 Accounting

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 020
Accounting

☞ Press twice the button <<➡>> to display the daily settlement.

⇒ The display shows the daily settlement:

Turnover cash: YYYYYY ZZ

YYY = Daily turnover
ZZ = Currency

☞ Press twice the button <<Cancel>>.

⇒ The display shows:

020 Accounting

Menu 021
Prices

☞ Press the button <<➡>>.

⇒ The display shows:

Price P Z XXX.XX Promotion YYY.YY

Z = Program number (Start with Prog. 01)
XXX = Price for Prog. Z at regular times
YYY = Price for Prog. Z at promotion times

You can define a regular and a promotion price for each wash program. Promotion prices are only valid at specified promotion times (see menu 022 Promotion times).

☞ Select with the buttons <<⬇>> and <<⬆>> the price display for the desired program.

NOTICE

Prices cannot be changed with password 00001.

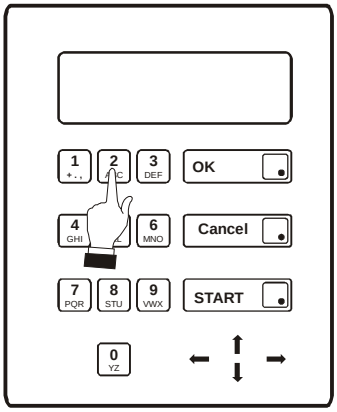
Display only

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

021 Prices

Change prices



☞ Press the button <<OK>>.

⇒ The cursor is placed below the first digit of the regular price.

<OK>

Price P Z XXX.XX Promotion YYY.YY

☞ Press the button <<➡>> until the cursor is placed below the desired digit.

☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted

⇒ The cursor is placed below the 1. digit of the promotion price.

<OK>

Price P Z XXX.XX Promotion YYY.YY

<Cancel> < Cancel > < Cancel >

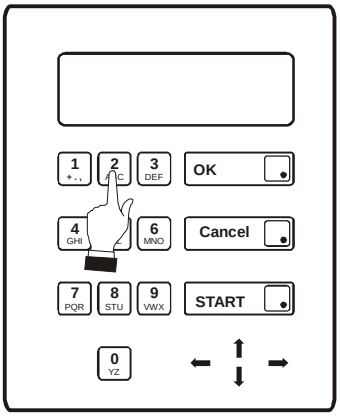
☞ Press twice the button <<Cancel>> when the promotion price should not be changed. Otherwise proceed as described on the next page.

☞ Select with the buttons <<⬇>> and <<⬆>> another program. Press the button <<Cancel>> to return to the start menu.

Change promotion price

☞ Press the button <<➡>> until the cursor is placed below the desired digit.

Price P Z XXX.XX Promotion YYY.YY



☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed below the 1. digit of the price.

Price P Z XXX.XX Promotion YYY.YY

☞ Press the button <<Cancel>>.

Price P Z XXX.XX Promotion YYY.YY

<Cancel> < Cancel >

☞ Select with the <<⬇>> and <<⬆>> another program or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

021 Prices

Example

In this example the price for program 5 will be increased from 11,00 to 12,50 Euro at regular times and will be decreased from 10,00 to 9,50 at promotion times.

☞ Press the button <<OK>>.

⇒ The cursor is placed below the 1. digit of the regular price.

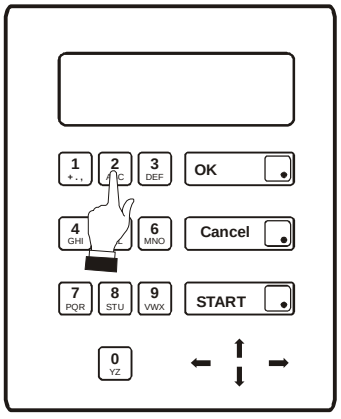
<OK>

Price P05 011.00 Promotion 010.00

☞ Press twice the button <<➡>>.

⇒ The cursor is placed below the 3. digit of the regular price.

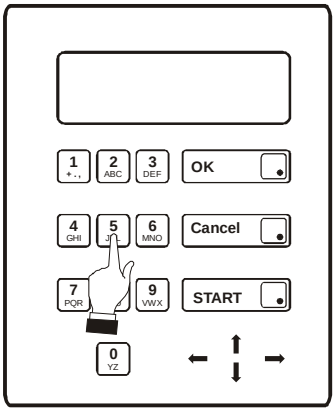
Price P05 011.00 Promotion 010.00



☞ Enter the number 2 on the key pad.

⇒ The cursor is placed below the 4. digit of the regular price.

Price P05 012.00 Promotion 010.00



☞ Enter the number 5 on the key pad.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed below the 1. digit of the price.

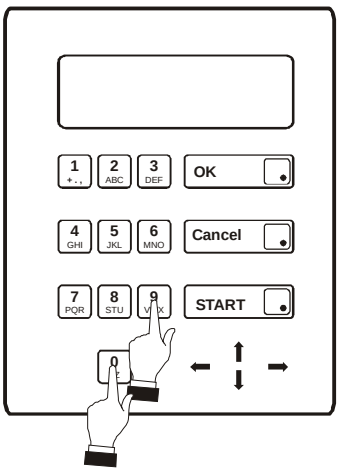
<OK>

Price P05 012.50 Promotion 010.00

☞ Press the button <<➡>>.

⇒ The cursor is placed below the 2. digit of the promotion price.

Price P05 012.50 Promotion 010.00



☞ Enter the number 0 on the key pad.

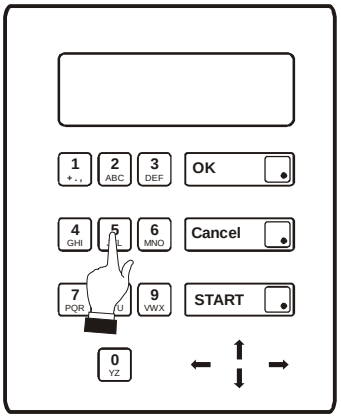
⇒ The cursor is placed below the 3. digit of the promotion price.

Price P05 012.50 Promotion 000.00

☞ Enter the number 9 on the key pad.

⇒ The cursor is placed below the 4. digit of the promotion price.

Price P05 012.50 Promotion 009.00



☞ Enter the number 5 on the key pad.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed again below the first digit of the price.

Price P05 012.50 Promotion 009.00

☞ Press the button <<Cancel>>.

Price P05 012.50 Promotion 009.50

<Cancel> <Cancel>

☞ Select with the <<⬇>> and <<⬆>> another program or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

021 Prices

Menu 022
Promotion times

☞ Press the button <<➡>>.

⇒ The display shows the current promotion time for the displayed day of the week.

Z Time1 00:00-00:00 Time2 00:00-00:00

Z = Day of the week (Start with 0 Mo)

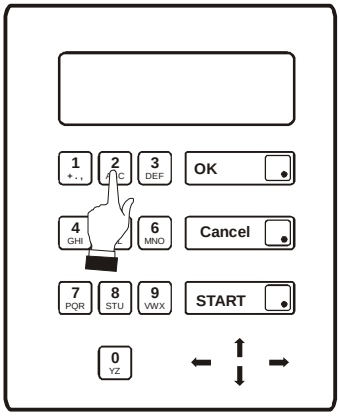
You can define two promotion times for each day. During these times the previously defined promotion prices are valid.

Setting 00:00-00:00 = No promotion time

☞ Select with the buttons <<⬇>> and <<⬆>> the desired day of the week.

☞ Press the button <<Cancel>> to return to the start menu.

Change promotion times



☞ Press the button <<OK>>.

⇒ The cursor is placed below the 1. digit of Time1.

<OK>

Z Time1 00:00-00:00 Time2 00:00-00:00

☞ Press the button <<➡>> until the cursor is placed below the desired digit.

☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed below the first digit of promotion time 2.

<OK>

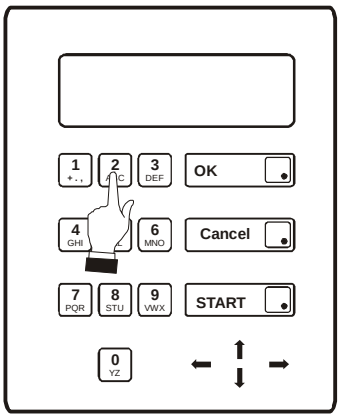
Z Time1 00:00-00:00 Time2 00:00-00:00

<Cancel> <Cancel> <Cancel>

☞ Press twice the button <<Cancel>> when the second promotion time should not be changed. Otherwise proceed as described on the next page.

☞ Select with the buttons <<⬇>> and <<⬆>> another day. Press the button <<Cancel>> to return to the start menu.

Change promotion time 2



☞ Press the button <<➡>> until the cursor is placed below the desired digit.

Z Time1 00:00-00:00 Time2 0<u>0</u>:00-00:00

☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed again below the 1. digit of the time 1.

Z Time1 <u>0</u>0:00-00:00 Time2 00:00-00:00

☞ Press the button <<Cancel>>.

Z Time1 00:00-00:00 Time2 0<u>0</u>:00-00:00

<Cancel> <Cancel>

☞ Select with the <<⬇>> and <<⬆>> another day or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

022 Promotion times

Example

In this example a promotion time will be set which is valid on Wednesday from 7 – 8:30 am and from 5 – 7 pm (17:00-19:00).

☞ Select Wednesday with the buttons <<⬇>> and <<⬆>>.

☞ Press the button <<OK>>.

⇒ The cursor is placed below the 1 digit of promotion time 1.

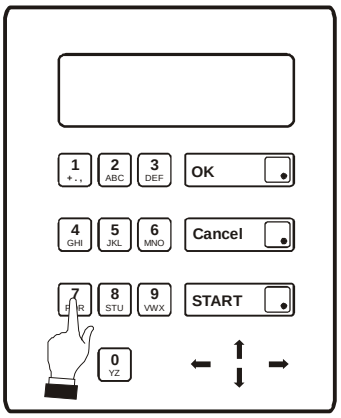
<OK>

2 We Time1 00:00-00:00 Time2 00:00-00:00

☞ Press the button <<➡>> once.

⇒ The cursor is placed below the 2. digit of promotion time 1.

2 We Time1 00:00-00:00 Time2 00:00-00:00

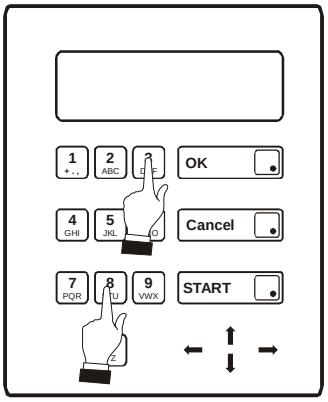


☞ Enter the number 7 on the key pad.

☞ Press the button <<➡>> three times.

⇒ The cursor is placed below the 6. digit of promotion time 1.

2 We Time1 07:00-00:00 Time2 00:00-00:00



☞ Enter the number 8 on the key pad.

⇒ The cursor is placed below the 7. digit of promotion time 1.

2 We Time1 07:00-08:<u>0</u>0 Time2 00:00-00:00

☞ Enter the number 3 on the key pad.

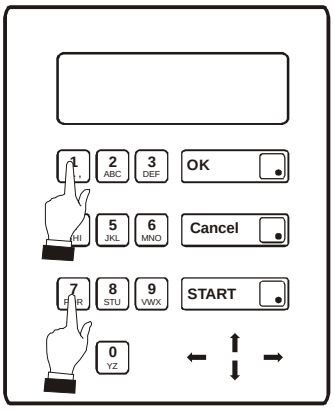
☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed below the 1. digit of promotion time 2.

<OK>

2 We Time1 07:00-08:30 Time2 <u>0</u>0:00-00:00



☞ Enter the number 1 on the key pad.

⇒ The cursor is placed below the 2. digit of promotion time 2.

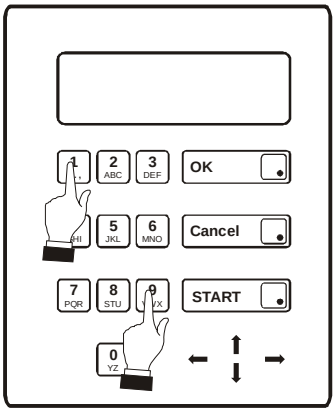
2 Mi Time1 07:00-08:30 Time2 1<u>0</u>:00-00:00

☞ Enter the number 7 on the key pad.

☞ Press twice the button <<➡>>.

⇒ The cursor is placed below the 5. digit of promotion time 2.

2 We Time1 07:00-08:30 Time2 17:00-<u>0</u>0:00



☞ Enter the number 1 on the key pad.

⇒ The cursor is placed below the 6. digit of promotion time 2.

2 We Time1 07:00-08:30 Time2 17:00-10:00

☞ Enter the number 9 on the key pad.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed again below the 1. digit of the time 1.

2 We Time1 07:00-08:30 Time2 17:00-10:00

☞ Press the button <<Cancel>>.

2 We Time1 07:00-08:30 Time2 17:00-19:00

<Cancel> <Cancel>

☞ Select with the buttons <<⬇>> and <<⬆>> another day. Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

022 Promotion times

Menu 023 Currency and tax

☞ Press the button <<➡>>.

⇒ The display shows the actual currency and sales tax. The cursor is placed below the first digit of the currency:

Currency: EUR Tax: 16,00 %

You can display and change the currency and tax to local values.

Display only

☞ Press the button <<Cancel>> to return to the start menu without any changes.

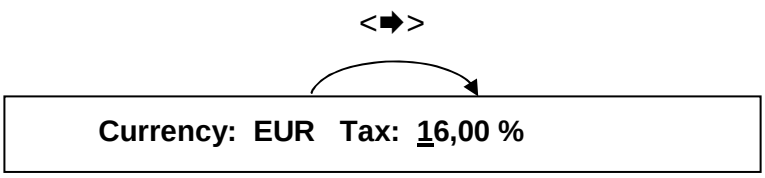
Change

☞ Enter the new currency.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

☞ Press the button <<➡>> until the cursor is placed below the desired digit.



☞ Press the button <<Cancel>> when the tax should not be changed. Otherwise proceed as described below.

Currency: EUR Tax: 16,00 %

<Cancel>

☞ Press the button <<➡>> until the cursor is placed below the desired digit.

Currency: EUR Tax: 16,00 %

☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed again below the first digit of the currency.

Currency: EUR Tax: 16,00 %

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

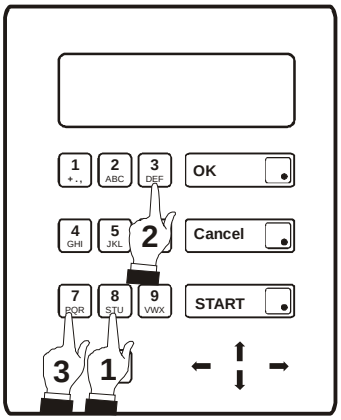
023 Currency and tax

Example

In this example the currency shall be changed to swiss franks (Sfr) and the sales tax shall remain unchanged.

The cursor is placed below the first digit of the currency.

Currency: EUR Tax: 16,00 %



☞ Press the number 8 once =S.

☞ Press the button <<➡>> once.

⇒ The cursor is placed below the next digit of the currency.

☞ Press the number 3 three times = F.

☞ Press the button <<➡>> once.

⇒ The cursor is placed below the next digit of the currency.

☞ Press the number 7 three times = R.

☞ Press the button <<OK>> once.

⇒ The data entry is accepted.

⇒ The cursor is placed below the first digit of the currency.

Currency: SFR Tax: 16,00 %

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

023 Currency and tax

Menu 024 Check WRAS Code

☞ Press the button <<➡>>.

⇒ The display shows:

Enter Code: xxxxxx

You can verify if a code has been used or if the code is still available for a wash cycle.

☞ Enter the code.

☞ Press the button <<OK>>.

⇒ If the code has been used for a wash cycle the display shows:

Program and date of the wash cycle

⇒ If the code has not been used for a wash cycle the display shows:

Code not found

☞ Press the button <<Cancel>> to return to the start menu.

Menu 03 Machine Settings

The menu „Machine settings“ is used to switch devices of the wash system on or off or to control them manually.

The table below shows on a glance all menus and sub-menus available in this menu item.

03> Machine settings
030> Modules On-Off Mod 000: DB1 = active
031> Lift control roof nozzle Lift control roof nozzle: on
032> Contact pressure Roof brush : 100 %
033> Door functions Entrance door off Exit door off Separator door off
034> Positioning lights Positioning lights on
035> Automatic start Automatic start off
036> Manual control 0360 Manual control buttons off 0361 Program selection at operating terminal off
037> Temperature setting 0371 Freeze protection on at xx°C 0372 Heater on at xx°C
038> Spray arch Shampoo off Active foam off Wax off Drying aid off Foam wax off
039> Bleed rim cleaner Rim cleaner on

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

030> Module On-Off

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

NOTICE

The menu cannot be activated during operation of the wash system.

Menu 030
Module On-Off

☞ Press the button <<➡>> to display the modules.

⇒ The first module is shown:

Mod 001: X = active

X = Abbreviation of the module, e.g. DB1 for roof brush 1

You can now change the condition of a module, i.e. activate or deactivate a module. A module which is deactivated will not be actuated during a wash cycle.

NOTICE

Use this function to switch off a defect module. You can then operate the wash system with reduced functionality.

CAUTION

Modules which are not in their home position may cause damages to vehicles or to the wash system.

Make sure that all modules are in their home position before you deactivate a module.

The wash system cannot be started if a module is not in its home position.

☞ Select with the buttons <<⬇>> and <<⬆>> a module.

☞ Press the button <<OK>> to change the condition of the module, e.g. from active to inactive.

⇒ The display shows for example:

Mod 001: DB1 = inactive

☞ Select with the buttons <<⬇>> and <<⬆>> further modules or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

030 Modules On-Off

Menu 031
Lift control roof nozzle

☞ Press the button <<➡>> to display the condition of the roof nozzle.

⇒ The display shows:

Lift control roof nozzle: on

You can now change the condition of the roof nozzle, i.e. switch roof nozzle on or off.

NOTICE

Use this menu to switch off the lift control after a malfunction of the roof nozzle. You can then operate the wash system with reduced functionality. The roof nozzle remains in the upper home position. The blower of the roof nozzle remains active.

☞ Press the button <<OK>> to change the condition of the module, e.g. from active to inactive.

⇒ The display shows:

Lift control roof nozzle: off

☞ Press the button <<Cancel>> to accept the change.

⇒ The display shows:

031 Lift control roof nozzle

⚠ CAUTION

A roof nozzle which is not in the upper home position may cause damages to vehicles or to the wash system.

Make sure that the roof nozzle is always in the upper home position before you deactivate the lift drive.

The wash system cannot be started if the roof nozzle is not in its home position.

Menu 032
Contact pressure

☞ Press the button <<➡>> to display the contact pressure.

⇒ The display shows:

Roof brush: 100%

In case of wear the contact pressure of the roof brush and the side brushes can be adjusted.

⚠ CAUTION

Incorrect adjustment of the brush pressure may cause insufficient washing results or may damage the vehicle.

The brush pressure is optimally adjusted by WashTec Service on commissioning.

☞ Select with the buttons <<⬇>> and <<⬆>> the brush.

☞ Change the contact pressure with the buttons <<➡>> (+ 10%) and <<⬅ >> (-10%).

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the new contact pressure:

Roof brush: 110%

☞ Select with the buttons <<⬇>> and <<⬆>> further brushes or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

032 Contact pressure

Menu 033
Door functions

☞ Press the button <<➡>>.

⇒ The display shows:

Entrance door off

In this menu you can change the operation mode of the doors. The following operation modes are available:

- Off
- Close before washing
- Close before drying
- Winter door mode

A detailed description abut the different operations modes can be found in chapter 10 “Additional equipment“.

NOTICE

Entrance and exit door have to be set to the same function if the wash building has only one door.

Select with the buttons <<⬇>> and <<⬆>> a door.

☞ Press the button <<OK>> to change the operation mode of the selected door.

⇒ The display shows subsequently the different operation modes, e.g.:

Entrance door close before drying

☞ Select with the buttons <<⬇>> and <<⬆>> further doors or press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

033 Door functions

Menu 034
Positioning lights

☞ Press the button <<➡>>.

⇒ The display shows:

Positioning lights: on

You can now change the condition of the positioning lights, i.e. switch the positioning light on or off.

☞ Press the button <<OK>> to change the condition, e.g. from on to off.

⇒ The display shows:

Positioning lights: off

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

034 Positioning lights

Menu 035
Automatic start

☞ Press the button <<➡>>.

⇒ The display shows:

Automatic start: off

You can now change the operation mode.

„Automatic start: on“ the wash cycle starts automatically with a time delay when the wash program has been selected (by entering the program on the key pad or by inserting a wash card into the card reader) **and** the vehicle has been positioned in the wash hall.

⚠ DANGER

Pay attention to the safety instructions in chapter 5.3.

„Automatic start on“ is generally activated when the driver remains in the vehicle during the wash cycle.

Different procedures are possible with „Automatic start: off“ (see chapter 5.3 „Washing procedure“).

☞ Press the button <<OK>> to change the operation mode, e.g. from off to on.

⇒ The display shows for example:

Automatic start: on

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

035 Automatic start

Menu 036
Manual control

In the menu „Manual control“ you can deactivate the manual control buttons (only control mode) and you can set the program selection, i.e. starting a wash program by entering a program number at the operating terminal or by entering a code or using the card reader.

The table below shows on a glance all menus available in this menu item.

036>	**Manual control**
	0360 Manual control buttons Manual control buttons: off
	0361 Program selection at operating terminal Program selection at operating terminal: off

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

0360 Manual control buttons

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 0360
Manual control buttons

☞ Press the button <<➡>>.

⇒ The display shows:

Manual control buttons: on

You can switch the manual control buttons on or off. If the manual control buttons are switched off you cannot move any devices in control mode, i.e. no wash program is running. The control buttons remain active during washing operation.

NOTICE

Use this menu to avoid misuse at systems which are operated in self service mode (e.g. wash systems with card reader).

☞ Press the button <<OK>> to change the condition, e.g. from on to off.

⇒ The display shows for example:

Manual control buttons: off

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

0360 Manual control buttons

Menu 0361
Program selection at operating terminal

☞ Press the button <<➡>>.

⇒ The display shows:

Program selection at operating terminal: on

This function is only useful if the operating unit is equipped with a card reader or a code system. With “Program selection at operating terminal: on“ wash programs can only be started from the card reader or by entering a code at the operating terminal.

NOTICE

Program selection cannot be changed with password 00001.

☞ Press the button <<OK>> to change the condition, e.g. from on to off.

⇒ The display shows for example:

Program selection at operating terminal: off

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

0361 Program selection at operating terminal

Menu 037
Temperature setting

In the menu „Temperature setting“ you can set the temperatures for activating the freeze protetction and for switching on the heater in the resource cabinet.

The table below shows on a glance all menus available in this menu item.

037>	**Temperature setting**
	0370 Freeze protection Freeze protection on at xx°C
	0371 Heater Heater on at xx°C

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

0370 Freeze protection

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 0370
Freeze protection

☞ Press the button <<➡>>.

⇒ The display shows:

Freeze protection on at xx°C

⇒ The cursor is placed below the first digit of the temperature.

☞ Entert the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

☞ Select with the <<⬇>> and <<⬆>> another program or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

037> Temperature setting

Menu 0371
Heater

☞ Press the button <<➡>>.

⇒ The display shows:

Heater on at xx°C

⇒ The cursor is placed below the first digit of the temperature.

☞ Entert the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

☞ Select with the <<⬇>> and <<⬆>> another program or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

037> Temperature setting

Menu 038
Spray arch

☞ Press the button <<➡>>.

⇒ The display shows:

Shampoo off

In this menu you can switch on individual spray arches. The complete spray arch inclusive pumps and dosing pumps will be switched on. Switching the spray arches on or off has no impact on the settings or the wash program.

☞ Select with the buttons <<⬇>> and <<⬆>> the spray arch which should be switched on.

☞ Press the button <<OK>> to switch on the spray arch.

⇒ The display shows for example:

Shampoo on

⇒ The selected spray arch will now be switched on.

☞ Press the button <<OK>> to switch off the spray arch.

☞ Select with the buttons <<⬇>> and <<⬆>> further spray arches or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

038 Spray arch

Menu 039
Bleed rim cleaner

☞ Press the button <<➡>>.

⇒ The display shows:

Bleed rim cleaner: off

This function is only used to bleed the rim cleaner pump (see chapter 6.4). In condition „Bleed rim cleaner: on“ the pump will be clocked, i.e. with each stroke cleaning agent is drawn out of the container. Leave the pump switched on until the cleaning agent sprays out of the nozzle. Switching the rim cleaner on or off has no impact on the settings or the wash program.

☞ Press the button <<OK>> to change the condition, i.e. from off to on.

⇒ The display shows for example:

Bleed rim cleaner: on

⇒ The rim cleaner pump draws cleaning agent out of the container.

☞ Press the button <<OK>> to switch off the rim cleaner pump when the cleaning agent sprays out of the nozzle.

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

039 Bleed rim cleaner

Menu 04 System settings

This menu is used for system settings and to assign program names to wash programs.

NOTICE

The menu „system settings“ cannot be accessed with the password 00001.

The table below shows on a glance all menus and sub-menus available in this menu item.

04> System settings
040> Date and time Day: 0 Date: 01.01.2002 Time: 14:05:00
041> Change password Password:
042> Set telephone numbers SMS-Main office: 000000000000000 Mobile Phone: 000000000000000 SMS-Main office: + 49 171 07 60 256 WashTec-Server Mobile Phone + 49 171 07 60 000 Forward Server to mobile phone Nr.
043> Station code Station code: 000
044> Opening hours Opened: 00:00 – 24:00 Mo
045> Selectable program names Selectable program names off
046> Program names Program 01:
047> Release Please enter PIN:
048> WRAS Setup Code Enter code:

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

040> Date and time

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 040 Date and time

☞ Press the button <<➡>>.

⇒ The display shows the current setting for date and time. The cursor is placed below the day code:

Day: 0 Date: XX.XX.XXXX Time: YY.YY.YY

You can now display and change date and time. The day code will be generated from the date. Mo = 0, Tue = 1, etc. to Su = 6

Display only

☞ Press the button <<Cancel>> to return to the start menu without any changes.

Change

☞ Press the button <<OK>> and the cursor is placed below the 1. digit of the date.

<OK>

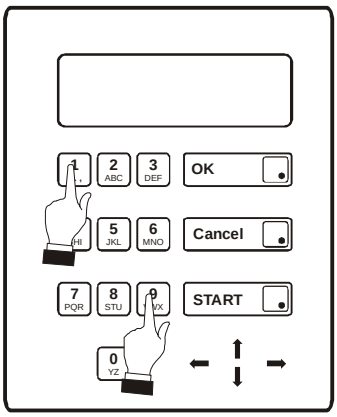
Day: 0 Date: XX.XX.XXXX Time: YY.YY.YY

☞ Enter the new date.

NOTICE

The date can only be reset with a clearance from WashTec (see menu 047).

☞ Press the button <<➡>> until the cursor is placed below the first digit of the time or press the button <<OK>> to accept the new date and than the button <<Cancel>> to return to the start menu.



<OK>

Day: 1 Date: 16.12.2003 Time: YY.YY.YY

<Cancel> <Cancel>

☞ Enter the new time.

☞ Press the button <<OK>> to accept the data entry.

⇒ The new time is accepted.
⇒ The cursor is placed below the daily code.

Day: 1 Date: 16.12.2003 Time: 14.02.03

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

040 Date and time

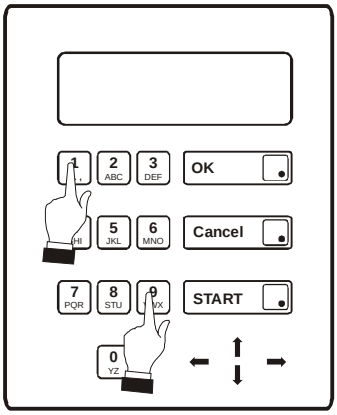
Menu 041
Change password

☞ Press the button <<➡>>.

⇒ The display shows the current password, e.g.:

New password: 00000

You can now change the password.



☞ Enter the new password.

☞ Press the button <<OK>>.

⇒ The new password is accepted. The display shows shortly the message:

New password accepted

And afterwards the new password, e.g.

New password: 11111

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

041 Change password

Menu 042
Set telefone numbers

☞ Press the button <<➡>>.

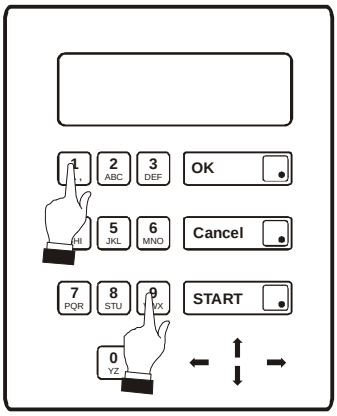
⇒ The display shows the phone number of the SMS-main office. The cursor is placed below the first digit of the phone number:

SMS-main office: **+491710760256**

The SMS-main office number as shown above is preset in the factory. Error messages will be forwarded directly to the WashTec Service Centre.

By entering a SMS-central phone number and a mobile phone number you can transmit error messages as SMS to a mobile phone. By entering your own mobile phone number you will always be informed about malfunctions, no matter where you are.

The SMS- central phone number can be obtained from the provider of the telephone card which is installed in the modem of the system (in the controller cabinet).



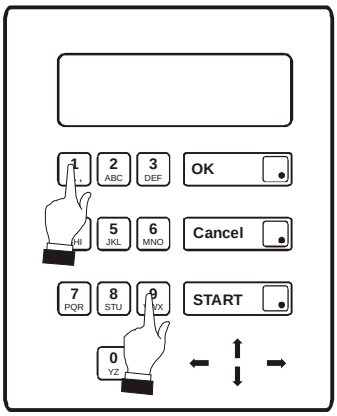
☞ Enter the SMS- central phone number.

☞ Press the button <<OK>>.

☞ Press the button <<⬇>>

⇒ The display shows:

Mobil Phone _



☞ Enter the phone number of the mobile phone.

☞ Press the button <<OK>>.

☞ Press the button <<Cancel>> to accept the phone number and to return to the start menu.

⇒ The display shows:

042 Set telefone numbers

Menu 043
Station code

☞ Press the button <<➡>>.

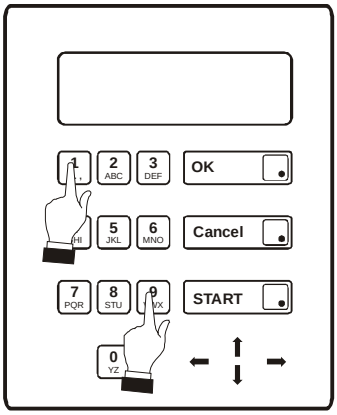
⇒ The display shows the current station code. The cursor is placed below the first digit of the station code:

Station code: 000

This function is only useful if the operating unit is equipped with a card reader. The station code is transferred onto the wash card when the card is generated. This procedure assures that wash cards can only be used on systems where they have been generated.

NOTICE

After the station code has been changed wash cards which have been generated with the old station code will no longer be accepted.



☞ Enter the new station code.

☞ Press the button <<OK>>.

⇒ The new station code will be accepted.

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

043 Station code

Menu 044
Opening hours

☞ Press the button <<➡>>.

⇒ The display shows:

Opened: 00:00 – 24:00 Mo

You can determine the daily opening hours of the wash system and define the days at which the wash system should be completely closed. The left time indicates when the system is opened, the right time indicates when the system is closed. The day of the week is displayed rightmost.

Daily opening hours

☞ Enter the desired opening hours for the selected day.

☞ Press the button <<OK>>.

⇒ The data entry will be accepted.

☞ Press the button <<⬇>> to select the next day.

☞ Enter for all further days the desired opening hours as described above.

By entering „00:00 – 00:00“ the system is closed the whole day.

Close system at selected days

☞ Press the button <<⬇>> until the displays shows:

[01] closed at [day.month]: 00.00

You may select up to 28 days at which the system is completely closed.

☞ Press the button <<OK>>.

⇒ The cursor is placed below the first digit of the day

☞ Enter day and month, e.g. 16.05 for May 16th.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

☞ Press the button <<⬇>> to select the next day.

☞ Enter all further days at which the system should be closed as described above.

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

044 Opening hours

Menu 045
Selectable program names

☞ Press the button <<➡>>.

⇒ The display shows:

Selectable program names: off

You can assign individual program names to the wash programs (see menu 046). These program names will be shown in the display when the “selectable program names” are switched on.

☞ Press the button <<OK>> to change the condition, e.g. from off to on.

⇒ The display shows for example:

Selectable program names: on

☞ Press the button <<Cancel>> to accept the change and to return to the start menu.

⇒ The display shows:

045 Selectable program names

Menu 046
Program names

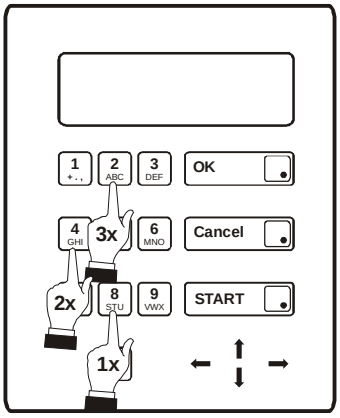
☞ Press the button <<➡>>.

⇒ The display shows the first program name. The cursor is placed below the 1. digit of the program name.:

Program 01: _

You can now assign program names to the individual programs.

☞ Select with the buttons <<⬇>> and <<⬆>> the program to which you want to assign a name.



☞ Enter the desired program name, e.g. „Foam“.

Press the button <<1>> to obtain special characters, numbers and blanks.

☞ Press the button <<OK>> to accept the program name.

⇒ The display shows for example:

Program 01: Foam

☞ Select with the buttons <<⬇>> and <<⬆>> further programs. Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

046 Program names

Menu 047
Release

This menu is only intended for WashTec Service.

NOTICE

A modification of the data in this menu may cause malfunctions of the system.

Menu 048
WRAS Setup Code

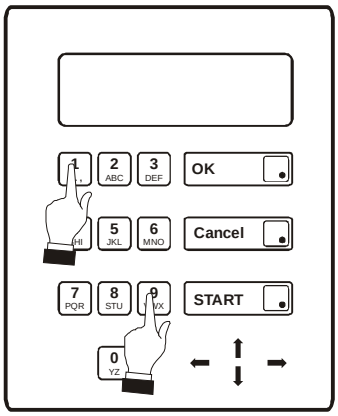
☞ Press the button <<➡>>.

⇒ The display shows:

Enter code: _

This function is necessary when the system is equipped with a WRAS system.

The code is supplied by the WRAS system. Wash system and WRAS system are synchronized after entering the code.



☞ Enter the code.

☞ Press the button <<OK>>.

⇒ Wash system and WRAS system are now synchronized.

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

048 WRAS Setup Code

Menu 05
Create cards

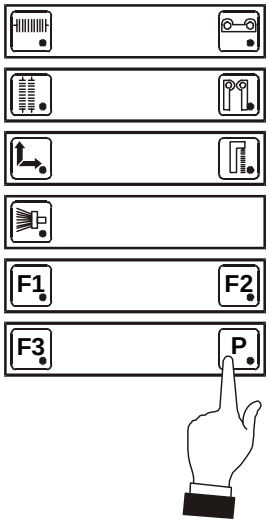
This menu is only helpful when the operating terminal is equipped with a card reader. The menu “Create cards” provides the following functions:

- Creating single cards
- Creating multi cards
- Creating cash cards
- Reading card data

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows:

** Single card**
050 Create cards active



☞ Press the button <<P>>.

⇒ The LED is switched off and the operating unit is now ready for creating and reading cards.

☞ Select with the buttons <<➡>> and <<⬅>> the desired sub-menu.

☞ Press the button <<OK>> to acknowledge the selection.

⇒ The display shows the selected sub-menu.

Data entry for single cards

** Single card **
050 Create cards active
Special offer no

☞ Select with the buttons <<➡>> or <<⬅>> whether the card should be used as a special offer card.

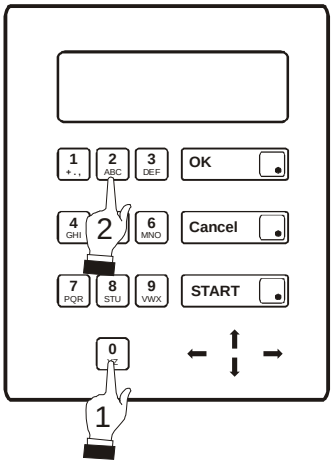
NOTICE

Special offer cards will only be accepted at promotion times as set in menu 022.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Single card **
050 Create cards active
Wash program 01



☞ Enter the desired program, e.g. 02 for program 2.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Single card **
050 Create cards active
Valid until: xx.yy.zzzz

☞ Enter the validity date.

☞ Press the button <<OK>> to accept the data entry.

⇒ The data entry is completed.

Data entry for multi cards

** Multi card **
050 Create cards active
Special offer no

☞ Select with the buttons <<➡>> or <<⬅>> whether the card should be used as a special offer card.

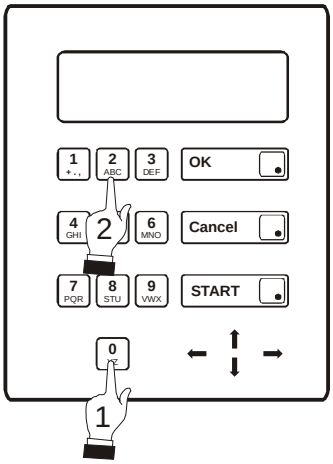
NOTICE

Special offer cards will only be accepted at promotion times as set in menu 022.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Multi card **
050 Create cards active
Wash program 01



☞ Enter the desired program, e.g. 02 for program 2.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Multi card **
050 Create cards active
Credit: 00

☞ Enter the number of wash cycles which should be executed with this card.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Multi card **
050 Create cards active
Valid: xx.yy.zzzz

☞ Enter the validity date.

☞ Press the button <<OK>> to accept the data entry.

⇒ The data entry is completed.

Data entry for cash cards

** Cash card **
050 Create cards active
Credit: 0000.00

☞ Enter the desired credit.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Cash card **
050 Create cards active
valid: xx.yy.zzzz

☞ Enter the validity date.

☞ Press the button <<OK>> to accept the data entry.

⇒ The data entry is completed.

Creating cards

After the data entry has been completed the display shows in the first line:

** Please insert card **

☞ Insert the card into the card reader.

⇒ The card is drawn into the card reader and the selected data will be transmitted together with the station code onto the card.

⇒ During data transmission the display shows in the first line:

** 1. writing card **

Up to three data transmissions will be executed. The card will be returned after the third attempt has failed and the display shows:

** Card writing error **

☞ Repeat the procedure with another card.

The card will be rejected after successful data transmission. The display shows:

** Please insert card **

You can now create further cards of the same type by inserting these cards into the card reader and by repeating the procedure as described above.

☞ Press the button <<Cancel>> when no further cards should be created with the same data.

☞ Press the button <<OK>> to create further cards of the same type with other data (e.g. another program).

⇒ The display shows:

** XXX-Card **
050 Create cards active
Request for action

☞ Proceed with the steps as described above.

☞ Select with the buttons <<➡>> and <<⬅>> another card type.

☞ Press the button <<OK>> to acknowledge the selection.

⇒ The display shows the selected card type.

Quit card creation

☞ Press the button <<P>>.

⇒ The LED in the lower right corner is illuminated.

☞ Press the button <<Cancel>>.

⇒ The display shows:

05> Create card

Read cards

** Reading card **
050 Create cards active

☞ Press the button <<OK>> to read the information stored on the card.

The display shows in the first line:

** Please insert card **

☞ Insert the card into the card reader.

⇒ The card is drawn into the card reader and the information stored on the card is subsequently displayed.

The card is rejected after all information has been displayed. The display shows:

** Please insert card **

You can now read further cards.

9.2. Card reader

9.2.1. Overview

The optional available card reader will be installed together with the operating terminal CP1. The card reader is used to start wash programs with wash cards. The card reader is installed together with the operating terminal CP1 in a metal housing which may be mounted to the wall or on a post.

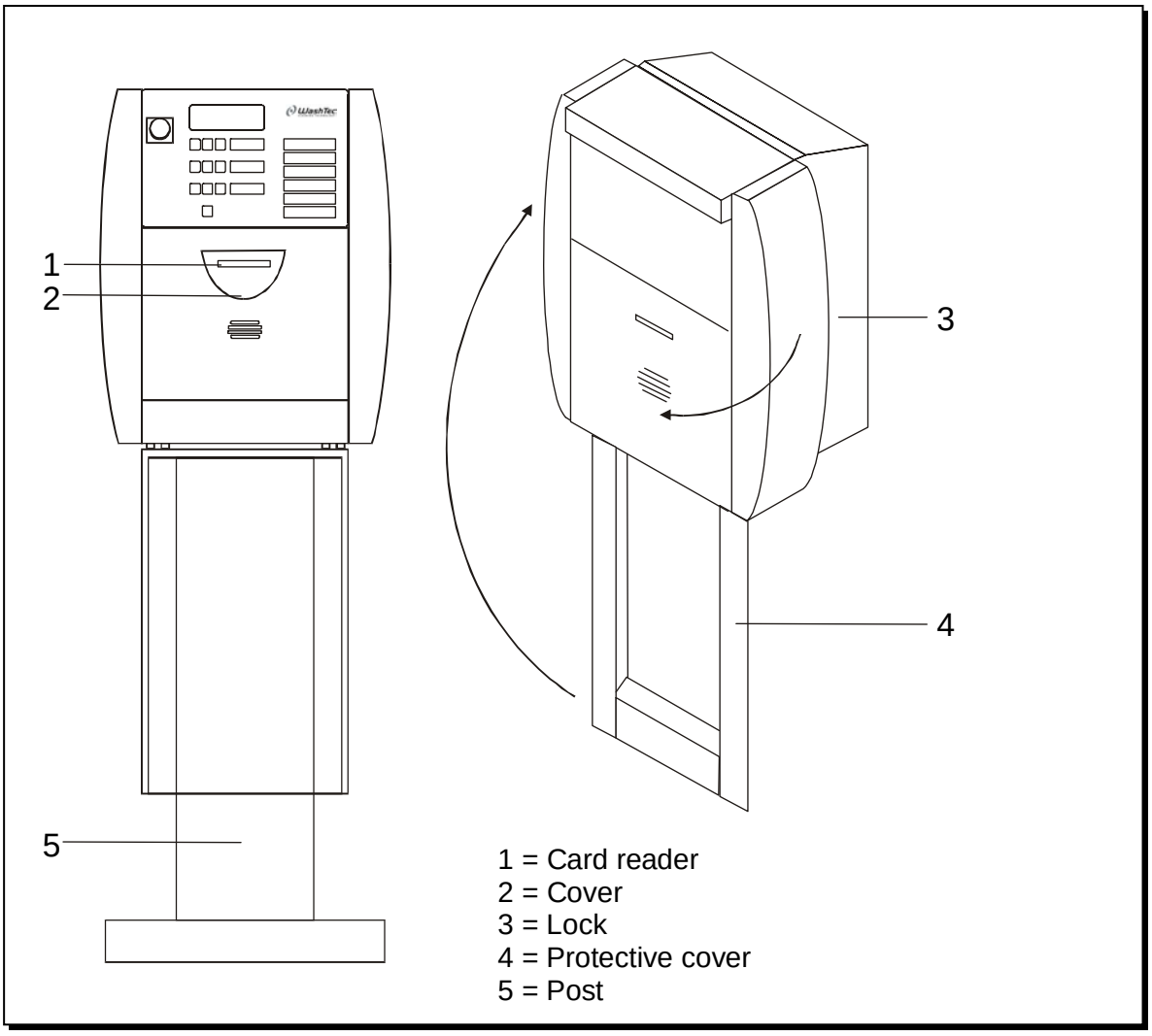


Fig. 9-7: Card reader

9.2.2. Structure

The card reader is installed in one housing together with the operating terminal CP1. The card slot (1) for the wash cards with a plastic cover (2) is located on the front side.

A lock (3) for releasing the card reader/operating terminal unit is located on the right side.

The complete unit can be swayed forward. Wash cards which have not been returned are collected in a tray and can be removed.

For protection against vandalism the protective cover (4) can be turned upwards and locked.

The complete unit can be mounted to the wall or on a post (5).

9.2.3. Commissioning

The operating unit is started automatically when the system is switched on at the main switch.

9.2.4. Washing operation with card

The card reader can be used for washing operation with 3 different types of card:

Single card

This reusable card can be used for a single wash with the program of choice.

Multi card

The multi card can be used for several washes with the same program.

Cash card

The cash card can be used to make any selection from the range of wash programs on offer. After each wash, the remaining credit is transferred onto the card.

Single and multi cards can be reformatted as special offer cards - for example if a wash is offered for a more economical price on work days between 9 and 12.

These card are only accepted at the set special offer times. With cash cards, only the special offer rate is charged off the card during special offer times.

⚠ CAUTION

Card may be damaged at strong heat.

Inform your customer that cards should never be exposed to direct solar radiation.

9.2.5. Start of wash programs

The car wash procedure depends on the operating mode setting (see chapter 9.1.3. Start of wash programs).

☞ Insert the card in the direction of the arrow into the card slot when the display shows the message:

Please insert card

The next steps vary according to the type of card:

Single card

⇒ The card is drawn in.
⇒ The wash program starts.

Multi card

⇒ The wash program is charged to the card.
⇒ The card is returned.
⇒ The wash program starts.

The card is drawn in after the last wash.

Cash card

⇒ The unused credit on the card is displayed:

Balance XXX or balance too low

The balance XXX will be displayed either in local currency or in Euro depending on the currency setting.

Afterwards the display shows:

Select program

☞ Select a suitable program on the ten-number keypad.

☞ The display shows:

P X **YYY.YY EUR**

X = selected program
YYY.YY = price of the program

☞ Confirm your entry by pressing the <OK> key.

If there is not enough credit left on the card: purchase a new card or select a different program.

⇒ The wash program is deducted from your card.
⇒ The card is returned.
⇒ The wash program starts.

Incorrect entry or different program required?

☞ Press the button <<Cancel>> to delete the entry

⇒ The card is returned.

You can also easily overwrite the entry, e.g. 05 for program 5.

When the wash cycle has finished, the following message appears on the display:

Drive out car

9.2.6. Cleaning the card reader

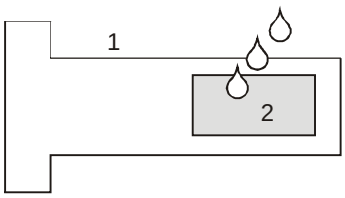
By using soiled wash cards the plain rollers of the card reader may be soiled. You can recognize a soiling when the wash cards are not smoothly drawn in. In this case you have to clean the plain rollers.

Use therefore the WashTec cleaning set consisting off a cleaning card and a cleaning liquid.

For cleaning proceed with the steps described below:

☞ Apply a few drops of the cleaning liquid to the microfibre cloth (2).

☞ Insert the cleaning card into the card slot of the card reader.



1 = Cleaning card
2 = Microfibre cloth

⇒ The card reader attempts to read the card. Because its not a wash card the card is rejected. The display of the operating terminal displays a message that the card is not readable.

☞ Repeat the procedure 3-4 times.

☞ Remove the cleaning card afterwards.

10. Additional equipment

This chapter is intended to help you familiarise yourself with the structure and function of various additional equipment with which your roll-over wash system may be fitted.
Check which additional equipment is used in your wash system and turn to the relevant sections to continue. Please take special note of the maintenance instructions.

Fresh-water supply system…..…….. 10-2
Under-body wash - turnable……..... 10-4
Under-body wash - sectionwise 10-7
Vehicle moving device..... 10-8
Rolling shutter door control system… 10-9

10.1. Fresh-water supply systems

Fresh-water supply systems ensure that your roll-over wash system is always supplied with an adequate volume of water and the necessary water pressure.

Structure

Fresh-water supply systems consist of a fresh-water tank with level regulation and pumps with various delivery capacities. Roll-over wash systems with 70 bars high pressure are additionally equipped with a 70 bars high pressure pump. Fresh-water supply systems are installed outside the roll-over wash system.

Water tank:

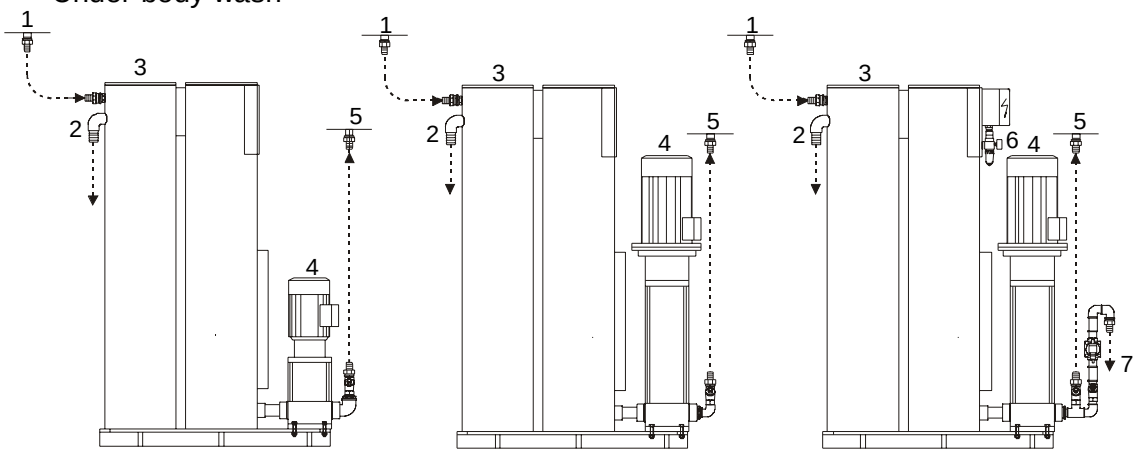
250 l Tank

Delivery capacity:

1,5 kW-pump	8 m^3/h at 4 bar
5,5 kW- pump	8 m^3/h at 16 bar
11 kW- pump	4,5 m^3/h at 70 bar

1 = Water inlet
4 = Pump
6 = Pneumatic unit
Under-body wash

2 = Overflow 3 = Water tank
5 = water connection to roll-over wash system
7 = water connection to under-body wash



1,1 kW pump: fresh-water without high pressure

5,5 kW pump: 16 bar high pressure without external under-body wash

5,5 kW pump: 16 bar high pressure with external under-body wash

Fig. 10-1: Fresh-water supply systems

Operation

Work through the following steps when the water tank has been emptied:

☞ Open the bleeder valve on the pump.

☞ Fill the water tank with water.

☞ Close the bleeder valve again.

⇒ The system is now ready for operation again.

Maintenance

Weekly

☞ Check that the level regulation functions correctly.

Monthly

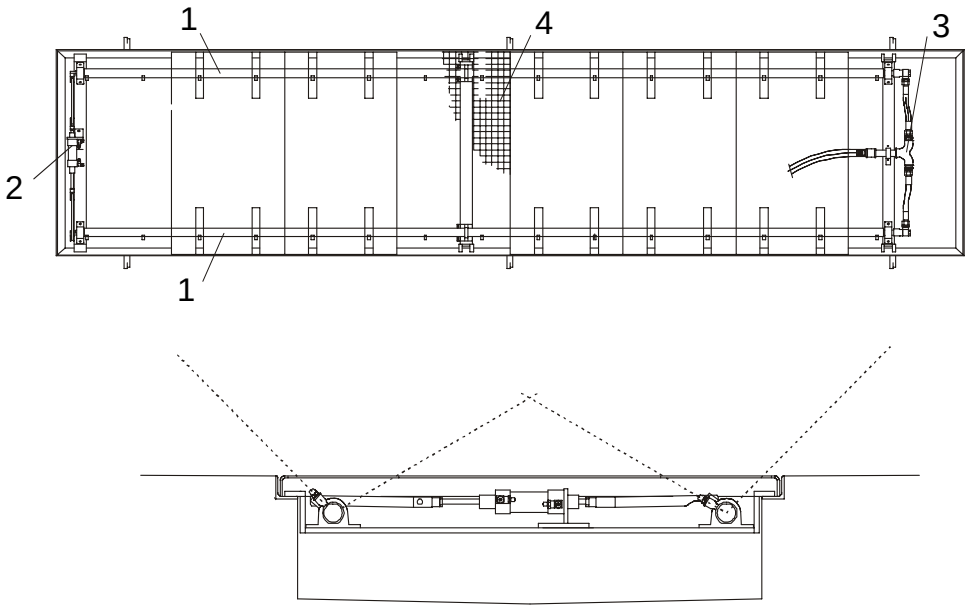
☞ Check the dirt traps in the supply hoses and clean the filter if necessary.

Every six months

We recommend an inspection and maintenance by WashTec Service at six-monthly intervals.

10.2. Under-body wash - turnable

The under-body wash device cleans the underside of the vehicle and inside the wheel arches. It is realized as under-floor version (integrated in the floor).



1 = Spray pipes with nozzles (pivoted)
2 = Cylinder
3 = Water supply
4 = Cover

Fig. 10.2: Under-body wash device - turnable

Structure

The under-body wash device consists of a basic frame, two spray pipes with nozzles, a cylinder for rotating the spray pipes, the water supply and a separate pneumatic device. The pneumatic device is located at the water tank of the fresh-water supply system. All elements are covered by removable cover panels.

Function

The high pressure pump supplies the under-body wash device with water. The spray pipes are pivoted and are moved back and forth by the cylinder during the wash cycle (position 1 and 2).

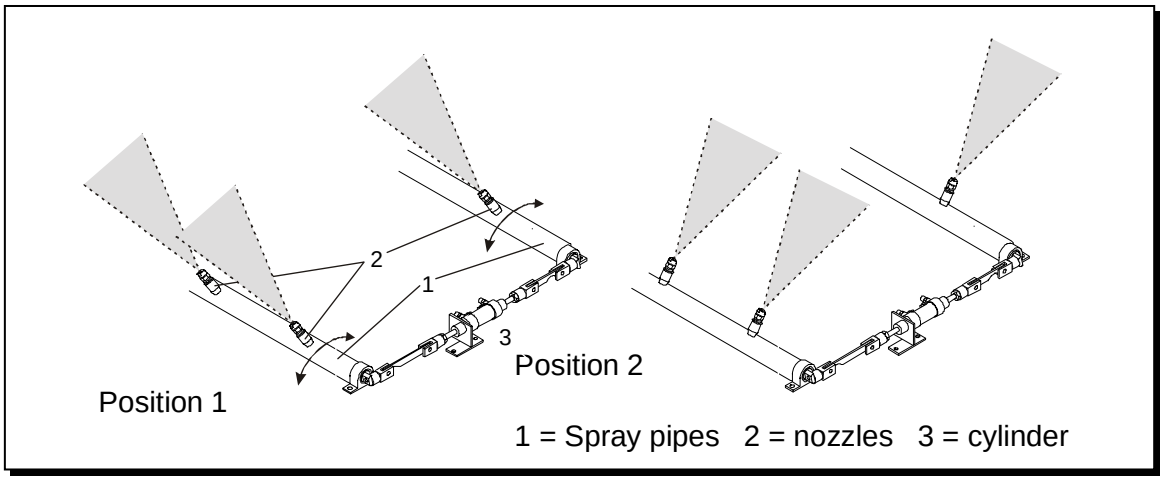


Fig. 10.3: Turning of the spray pipes

Maintenance

Weekly

- ☞ Remove the cover panels and rinse all the mud and dirt out of the base frame with a strong water jet.
- ☞ Check the nozzle heads on the spray nozzles. Clear clogged or soiled openings with a needle.
- ☞ Empty the condensation container at the maintenance unit (see Chapter 6 "Settings and checking").

Monthly

- ☞ Check the system of hoses for loose connections and leaks. Tighten loose connections. If you find any leaks, please inform WashTec Service.
- ☞ Lubricate the swivel heads (1) of the swivel device

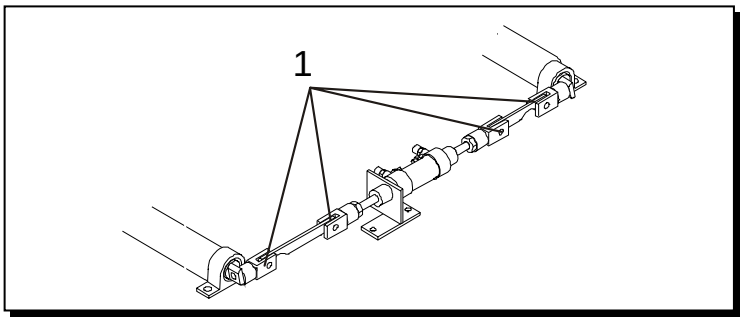


Fig. 10.4: Lubrication points

Every six months

We recommend an inspection and maintenance by WashTec Service at six-monthly intervals.

10.3. Under-body wash – sectionwise

Structure

The under-body wash device cleans the underside of the vehicle and inside the wheel arches.

It consists of the control system and a base frame with flat-jet nozzles, which is fixed to the floor of the car wash building. All components are covered, except for the nozzle pipe with removable plates.

Function

The high-pressure pump in the water supply system supplies the under-body wash device with either fresh or recycled water. The flat jet nozzles are activated in sequence.

Maintenance

Weekly

☞ Remove the cover panels and rinse all the mud and dirt out of the base frame with a strong water jet.

☞ Check the nozzle heads on the spray nozzles. Clear clogged or soiled openings with a needle.

NOTICE

When you have dismantled the nozzles for cleaning, ensure when you re-mount the flat jet nozzles that they are positioned correctly: at 45 degrees to the direction of travel.

Monthly

☞ Check the system of hoses for loose connections and leaks. Tighten loose connections. If you find any leaks, please inform WashTec Service.

Every six months

We recommend a twice-yearly inspection and maintenance by WashTec Service.

10.4. Vehicle moving device

The vehicle moving device is installed in short car wash buildings (hall length less than 8.3 metres) to move the vehicle during the wash program.

Structure

The vehicle moving device consists of a double ramp that travels on rails. Gratings are mounted in its frame so that the dirty water can run off easily and cleaning is simplified. There are wedges on the ramps to assist with driving the car up the ramp, which move with the system.

NOTICE

The vehicle moving device reduces the effective washing height by 6 cm.

Function

The vehicle is parked in the usual way on the vehicle moving device. The vehicle moving device is moved during the wash cycle by a hydraulic cylinder.

Maintenance

Every six months

We recommend a twice-yearly inspection and maintenance by WashTec Service.

10.5. Rolling shutter door control

Structure

Rolling shutter doors which are already fitted in the building can be controlled conveniently with the rolling shutter door controls.

The rolling shutter doors are controlled by the controller of the wash system. The settings can be done in the service program (see chapter 9.1.5 menu 033 door functions). In drive-through halls each door can be individually set, e.g. entrance door =close before drying and exit door = winter operation mode. In halls with one door (entrance door = exit door) both doors must be set to the same operation mode.

Operation modes

The rolling shutter door controller can be operated in 4 operation modes:

Off

The rolling shutter doors are not actuated. The doors can only be operated with the buttons provided by the door supplier.

Close before drying

⇒ Entrance and exit door close before the drying procedure starts.

⇒ Entrance and exit door open after the drying procedure is finished or with end of the wash program.

Close before washing

⇒ Entrance and exit door close before start of the wash program.

⇒ Entrance and exit door open with end of the wash program.

Winter operation mode

Entrance and exit door are closed in winter operation mode.

Two procedures are possible:

Procedure 1

⇒ The entrance door opens with program start.
⇒ The entrance door is closed with start of a wash program by pressing the start button.
⇒ Entrance and exit door open with the end of the wash program (depending on the setting).
⇒ Entrance and exit door are closed when the vehicle has left the wash building (depending on the setting).

Procedure 2

⇒ The entrance door opens when the "Door open" button is pressed or when the induction loops detect a vehicle in front of the car wash building.
⇒ The entrance door is closed with start of a wash program by inserting the wash card.
⇒ Entrance and exit door open with the end of the wash program (depending on the setting).
⇒ Entrance and exit door are closed when the vehicle has left the wash building (depending on the setting).

NOTICE

In case of emergency the doors can be opened and closed as required with the pushbuttons provided by the supplier of the rolling shutter doors.

On single-button operation without an upper limit switch, the rolling shutter door may get out of synchronisation.

☞ **Press the button again once to restore the correct rhythm.**

The door cannot be opened with the "Door open" button during the drying or washing cycle.

All doors are opened in case of an emergency stop.

When the system is moved in its initial state all doors are moved into their home position.

CAUTION

Please observe the valid national regulations for automatically operated rolling shutter doors.

CAUTION

The doors must be inherently safe, i.e. the door must recognize an obstruction by itself and must stop if necessary.

WashTec does not take responsibility for damages caused by doors.

11. Technical specifications

11.1. Dimensions

Machine depth

For all versions:
Approx. 1690 mm with plastic doors
Approx. 1565 mm with metal doors

Width

	Description	Dimensions in mm
B1	Max. vehicle width (1)	2400
B2	Machine width	3470
B4	Building width (2)	Min. 4000
L1	Building length(2)	Min. 8290

(1) Measured across rear-view mirrors
(2) With additional equipment

Machine type dependant data can be found on the next page.

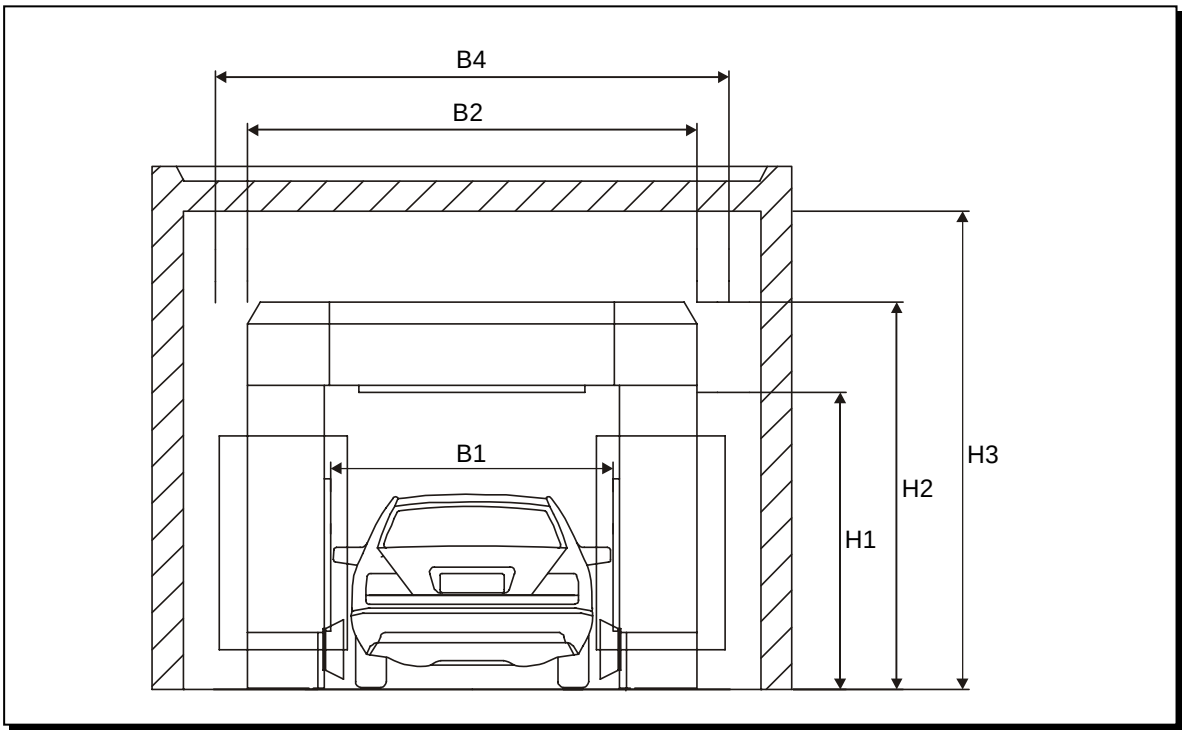


Fig. 11-1: Dimensions

Heigths

	Description	Machine type -dimensions in mm			
	Size	20	21	22	23
H1	Drive through height	2000	2100	2200	2300
H2	Machine height	2784	2884	2984	3084
H3	Building height	2880	2980	3080	3180

	Description	Machine type -dimensions in mm			
	Size	24	25	26	27
H1	Drive through height	2400	2500	2600	2700
H2	Machine height	3184	3284	3384	3484
H3	Building height	3280	3380	3480	3580

	Description	Machine type -dimensions in mm			
	Size	28			
H1	Drive through height	2800			
H2	Machine height	3584			
H3	Building height	3680			

Weight

Size	20	21	22	23
Weight in kg	appr. 1350	appr. 1350	appr. 1350	appr. 1350

Size	24	25	26	27
Weight in kg	appr. 1350	appr. 1450	appr. 1450	appr. 1450

Size	28			
Weight in kg	appr. 1450			

11.2. Technical Data

Wash capacity

up to 12 vehicles/hour (*)

(*) The wash capacity depends on the selected wash program. The specified value is valid for the program 2x Washing + 2x Drying

Electrical data

Electrical connection	400 N/PE		
Conductor cross-section in mm²	5X6	5X10	5X16
Fusing (slow at 400 VAC)	35 A	50 A	63 A
Power consumption	16 kW	16 kW	16 kW

Electrical protection class

Peripheral cabinet	IP65 according to DIN EN 60529
System	IPX5D according to DIN EN 60529

Mechanical connection data

Low-pressure water fitting 4-16 bar	R ¾”
High-pressure - water fitting 16-40 bar	R 1“
High-pressure - water fitting 70 bar	R 1/2“
Air fitting, 6-8 bar	R 1/4“

Environmental data

Operating temperature range	+2°C to + 40° C
Allowed shut-down temperature	Min. + 2°C (without freeze protection)

Illumination of wash hall

Recommended illumination in wash hall	Min. 120 Lux

The consumption data depends on the configuration of the system, the kind of water, the used chemical agents and the selected program. The following specifications can therefore only serve as a guideline and are valid for a vehicle length of approx. 4,5 meters.

Wash and Drying

Pump capacity	1,1 kW	
	Wash + Wheel wash	Wash + Wheel wash + drying
Power consumption (Wh/wash)	185	629
Recycled water (l/ wash)	73	73
Fresh water (l/ wash)	9	9
Compressed air (Nl/ wash)	16,7	16,7
Shampoo (ml/ wash)	10-20	10-20
Drying aid (ml/ wash)	10-20	10-20

Pre-wash

	Foam
Power consumption (Wh/wash)	11
Fresh water (l/ wash)	3
Compressed air (Nl/ wash)	24
Foam agent (ml/Wäsche)	10-20

High-pressure 16 bar
Under-body wash 16 bar

Pump capacity	5,5 kW			
	Side-HP	All-around HP	Con-tour HP	UBW
Power consumption (Wh/wash)	32	62	73	35
Recycled water (l/ wash)	20	50	50	55

High-pressure 40 bar

Pump capacity	15 kW	
	Side-HP	All-around HP
Power consumption (Wh/wash)	82	160
Recycled water (l/ wash)	19	49

Preservation

	Cold-wax	Foam wax	
Power consumption (Wh/wash)	11	11	
Fresh water (l/ wash)	5	3,5	
Compressed air (NI/ wash)	0	24	
Wax agent (ml/ wash)	10-20	10-20	

Sound pressure level

Sound pressure level	L_{pA} in dB(A)
	80

12. Appendix

Contents

- Manufacturer´s declaration
- Damage registration
- Checklist for maintenance and care work

WashTec

Manufacturer's Declaration

in terms of Appendix II B of the EC Machinery Directive 98/37/EC

Manufacturer: WashTec CLEANING TECHNOLOGY GmbH
Address: 86153 AUGSBURG
Argonstraße 7

hereby declares that

Description of the machine: Roll Over Car Wash System, New SoftWash
Machine type: SB20 - SB30

- is intended for mounting in a plant or is combined with other machines to form a machine in terms of Directive 98/37/EC (Machinery Directive) including its amendments.
- corresponds to the provisions of the following EC directives:

  EC Directive Machinery 98/37/EC
  EC Directive EMC 89/336/EEC
  EC Directive 73/23/EEC (Low Voltage Directive)

and that

- the following harmonised standards (or parts/clauses thereof) were applied:

  DIN EN ISO 9001;DIN EN 292-1;DIN EN 292-2;DIN EN 294;DIN EN 349;
  DIN EN 418;DIN EN 811;DIN EN 983;DIN EN 60204-1;

- the following national or international technical standards (or parts/clauses thereof) and specifications were applied:

  DIN VDE 0100;DIN VDE 1000;DIN 24446;

Operation of the machine is prohibited until it has been established that the assembled/completed/linked machine corresponds to the provisions of the EC Machinery Directive and that an EC Declaration of Conformity in terms of Appendix II A of the EC Machinery Directive has been issued for it.

Augsburg, 23.08.2006
Place and Date

Thorsten Krüger / ppa. Georg Wimmer
Managing Director / R&D Director-Mechanics

Vehicle incident report

Enter your name and address _____

_____

(1) GET THE DETAILS	Date and approx. time of incident		Date of incident report		
(2) WHO WAS INVOLVED? Name, address and drivers lic. no. of the customer					
Damaged vehicle	Make	Type	Year	Mileage	Car License
(3) HOW DID THE INCIDENT HAPPEN? DESCRIBE					
(4) WHAT VEHICLE DAMAGE OCCURED? You can use the car pictures. Indicate where damage occurred and describe					
Previous damage? If yes, what?					
Other damage? (i.e. buildings, etc.)					
Witnesses? If yes, enter name and address					

_____ _____

Signature of wash system operator Signature of customer

Checklist for maintenance work
- Weekly -

Part/assembly	Work	Check
Frame	☞ Clean the entire frame of the roll-over wash system with commercially available detergents	☐
Flat belts	☞ Check the belts for signs of wear.	☐
Energy chains	☞ Check the energy chains including leads and cables of the roof brush and the wheel washer for signs of wear and breakage.	☐
System of hoses	☞ Check the system of hoses for loose connections and leaks. Tighten any loose connections.	☐
Low-pressure water distribution	☞ Check the nozzle heads on the spray nozzles and spray pipes. Clear clogged or soiled openings with a needle. Replace defect nozzles	☐
Clean the suction grids	☞ Clean the suction grids of the dryer blowers.	☐

Checklist for maintenance work
- Monthly -

Part/assembly	Work		Check
Clean the agent containers	☞	Rinse out the cleaning agent containers with water to remove any thickened chemicals.	☐
	☞	Fill each container with the correct cleaning agent.	☐
	☞	Bleed all air out of supply hoses.	☐
Check the brushes	☞	Check the side, roof and wheel washing brushes for wear.	☐
Track and guide rollers	☞	Clean all the track and guide rollers.	☐
	☞	Check all drive, track and guide rollers for wear. In the event of heavy wear, please inform WashTec Service	☐

Checklist for maintenance work
- Every six months -

Part/assembly	Work	Check
Safety ring switch	☞ Check the safety ring switch for smooth operation.	☐
	☞ Spray the guidance of the safety ring switch with the WashTec special- grease-spray.	☐
Slide bearings	☞ Spray all slide bearings with the WashTec special-grease-spray	☐
	Use the WashTec special-grease-spray with caution: do not spray into the wash brushes.	
Drives	☞ Ensure that all the drives are properly sealed. You can recognise leaks by traces of oil on the housing.	☐